

SERVICE MANUAL



Indoor unit	Outdoor unit
AUXG18KRLB	AOYG18KBTB
AUXG22KRLB	AOYG22KBTB
UTG-UKYC-W	

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Specifications (Indoor unit)

Type				Cassette		
				Inverter heat pump		
Model name				AUXG18KRLB	AUXG22KRLB	
Power supply				230 V ~ 50 Hz		
Power supply intake				Outdoor unit		
Available voltage range				198—264 V		
Capacity	Cooling	Rated	kW	5.2	6.0	
			Btu/h	17,700	20,500	
		Min.—Max.	kW	0.90—5.90	0.90—6.70	
		Btu/h	3,100—20,100	3,100—22,900		
	Heating	Rated	kW	6.0	7.0	
			Btu/h	20,500	23,900	
Min.—Max.		kW	0.90—7.50	0.90—8.00		
		Btu/h	3,100—25,600	3,100—27,300		
Input power	Cooling	Rated	kW	1.36	1.71	
		Max.		2.79	2.90	
	Heating	Rated		1.58	1.82	
		Max.		2.79	2.90	
Current	Cooling	Rated	A	6.0	7.5	
	Heating			6.9	8.0	
Power factor	Cooling		%	98.6	99.1	
	Heating			99.6	98.9	
EER	Cooling		kW/kW	3.82	3.51	
COP	Heating			3.80	3.85	
Moisture removal			L/h (pints/h)	1.5 (2.6)	2.2 (3.9)	
Maximum operating current *1		Cooling	A	12.1	12.6	
		Heating		12.1	12.6	
Fan	Airflow rate	Cooling	m³/h	1,050		
				MED	960	
				LOW	900	
				QUIET	780	
		Heating		HIGH	1,050	
				MED	960	
				LOW	900	
				QUIET	780	
	Type × Q'ty			Turbo fan × 1		
	Motor output			W		
Sound pressure level *2	Cooling	HIGH	dB (A)	81		
				MED	33	
				LOW	32	
				QUIET	31	
	Heating	HIGH		28		
		MED		33		
		LOW		32		
		QUIET		31		
Heat exchanger type	Dimensions (H × W × D)		mm	210 × 2,127 × 13.3		
	Fin pitch			210 × 2,061 × 13.3		
	Rows × Stages			1.2		
	Pipe type			2 × 10		
	Fin type			Copper tube		
Dimensions (H × W × D)	Net		mm	Aluminum		
	Gross			246 × 840 × 840		
Weight	Net		kg	298 × 960 × 950		
	Gross			23		
Connection pipe	Size	Liquid	mm (in)	28		
		Gas		Ø 6.35 (Ø 1/4)		
	Method			Ø 12.70 (Ø 1/2)		
Drain hose	Material			Flare		
	Size			PVC(VP25)		
Operation range			mm	Ø 25 (I.D.), Ø 32 (O.D.)		
	Cooling		°C	18 to 32		
			%RH	80 or less		
Cassette grille (Option)	Heating		°C	16 to 30		
		Material			Polystyrene	
	Color			White		
				Approximate color of MUNSELL N 9.25/		
	Dimensions (H × W × D)	Net	mm	53 × 950 × 950		
		Gross		110 × 1,000 × 1,010		
Weight	Net	kg	6.0			
	Gross		10.0			
Remote control (Option)				Wired remote controller, Wireless remote controller, Mobile app*3 (FGLair™)		

NOTES:

- Specifications are based on the following conditions:
 - Cooling: Indoor temperature of 27 °CDB/19 °CWB, and outdoor temperature of 35 °CDB/24 °CWB.
 - Heating: Indoor temperature of 20 °CDB/15 °CWB, and outdoor temperature of 7 °CDB/6 °CWB.
 - Pipe length: 5 m, Height difference: 0 m. (Between outdoor unit and indoor unit.)
- Protective function might work when using it outside the operation range.
- *1: Maximum operating current is the total current of the indoor unit and the outdoor unit.
- *2: Sound pressure level:
 - Measured values in manufacturer's anechoic chamber.
 - Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.
- *3: Available on Google Play™ store or on App Store®. Optional WLAN adapter is also required. For details, refer to the setting manual.

Specifications for ErP Lot10						
Model name				AUXG18KRLB		AUXG22KRLB
Energy efficiency class	Cooling			A ⁺⁺		
	Heating (Average)			A ⁺		
Pdesign	Cooling	kW	5.2 (35°C)		6.0 (35°C)	
	Heating (Average)		4.4 (-10°C)		4.8 (-10°C)	
SEER	Cooling	kWh/kWh	7.00		7.00	
SCOP	Heating (Average)		4.30		4.40	
Annual energy consumption	QCE		260		300	
	QHE (Average)		1,431		1,527	
Sound power level	Cooling	HIGH	dB (A)	47		49
	Heating			47		49

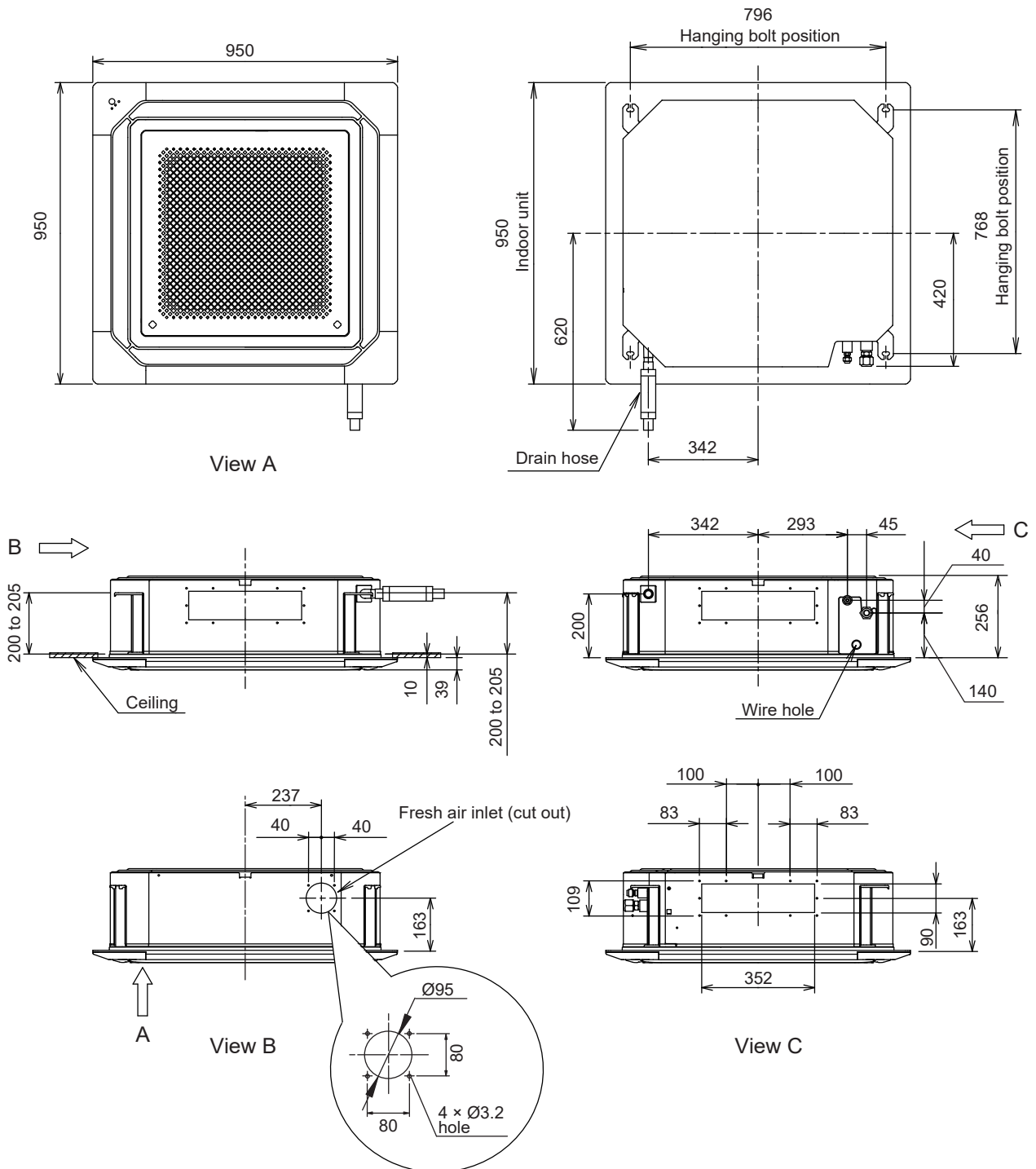
Specifications (Outdoor unit)

Type				Inverter heat pump	
Model name				AOYG18KBTB	AOYG22KBTB
Power supply				230 V ~ 50 Hz	
Available voltage range				198—264 V	
Starting current			A	7.1	8.2
Fan	Airflow rate	Cooling	m³/h	2,160	2,240
		Heating		1,830	1,960
	Type × Q'ty		Propeller fan × 1		
	Motor output		W	49	
Sound pressure level *1		Cooling	dB (A)	50	51
		Heating		50	51
Sound power level		Cooling	dB (A)	62	63
		Heating		62	63
Heat exchanger type		Dimensions (H × W × D)	mm	588 × 881 × 18.19	588 × 881 × 18.19
		Fin pitch		588 × 851 × 18.19	588 × 851 × 18.19
				1.3	
		Rows × Stages		2 × 28	2 × 28
		Pipe type		Copper tube	
		Fin type		Type (Material)	Aluminum
		Surface treatment	PC fin		
Compressor	Type × Q'ty		DC Twin rotary × 1		
	Motor output		W	900	1,060
Refrigerant		Type (Global warming potential)		R32 (675)	
		Charge	g	1,020	1,250
Refrigerant oil		Type		FW68S	RmM68AF
		Amount	cm³	350	400
Enclosure		Material		Steel sheet	
		Color		Beige	
		Approximate color of Munsell 10YR 7.5/1.0			
Dimensions (H × W × D)	Net		mm	632 × 799 × 290	
	Gross			692 × 940 × 375	
Weight	Net		kg	36	38
	Gross			40	42
Connection pipe	Size	Liquid	mm (in)	Ø 6.35 (Ø 1/4)	
		Gas		Ø 12.70 (Ø 1/2)	
	Method		Flare		
	Pre-charge length		m	20	
	Max. length			30	
	Max. height difference			20	25
Operation range		Cooling	°C	-15 to 46	
		Heating		-15 to 24	
Drain hose		Material		PP	
		Size	mm	Ø 13.0 (I. D.), Ø 16.0 to Ø 16.8 (O. D.)	
NOTES:					
- Specifications are based on the following conditions: - Cooling: Indoor temperature of 27 °CDB/19 °CWB, and outdoor temperature of 35 °CDB/24 °CWB. - Heating: Indoor temperature of 20 °CDB/15 °CWB, and outdoor temperature of 7 °CDB/6 °CWB. - Pipe length: 5 m, Height difference: 0 m. - Protective function might work when using it outside the operation range. *1: Sound pressure level - Measured values in manufacturer's anechoic chamber. - Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.					

Dimensions

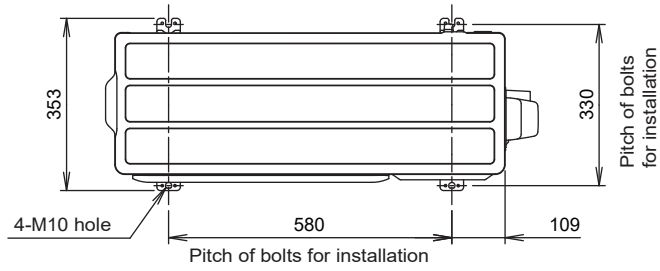
Models: AUXG18KRLB and AUXG22KRLB

Unit: mm

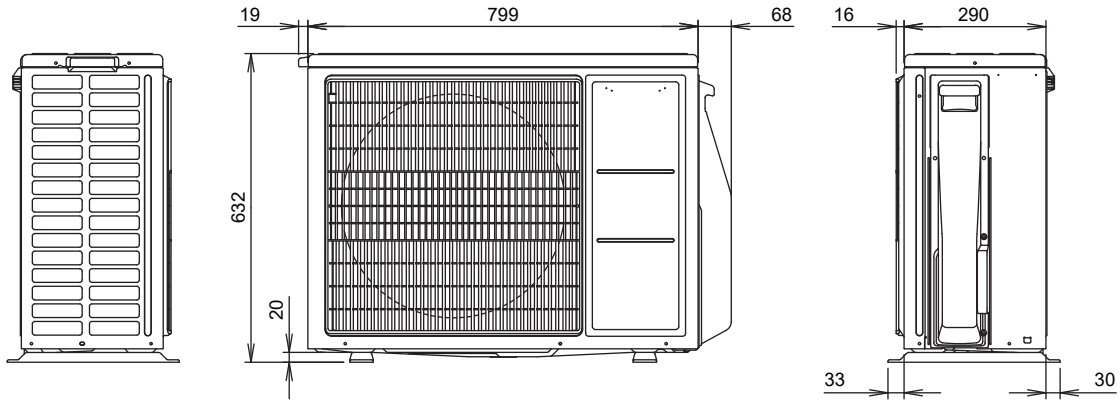


Models: AOYG18KBTB and AOYG22KBTB

Unit: mm



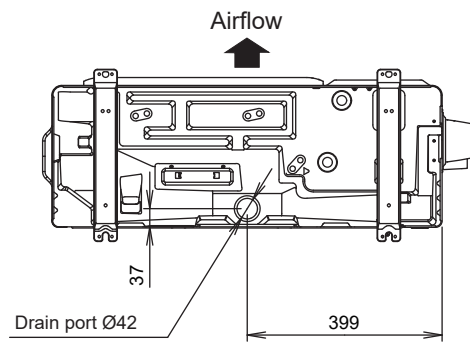
Top view



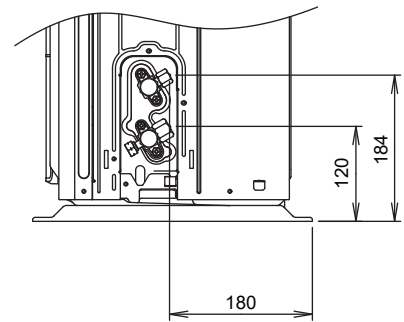
Side view

Front view

Side view



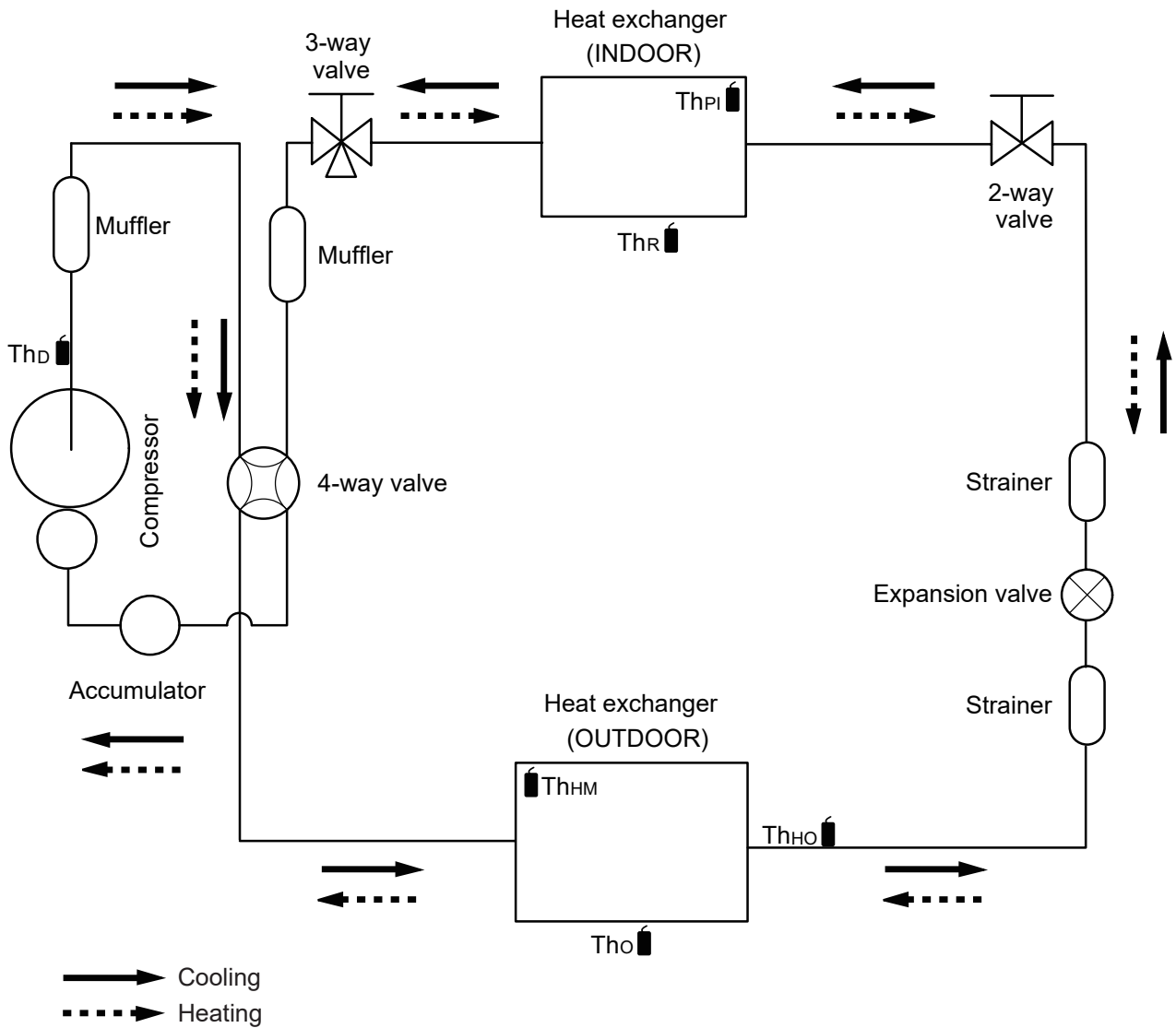
Bottom view



Side view (Valve part)

Refrigerant circuit

Model: AOYG18KBTB



Th_D : Thermistor (Discharge temperature)

Th_o : Thermistor (Outdoor temperature)

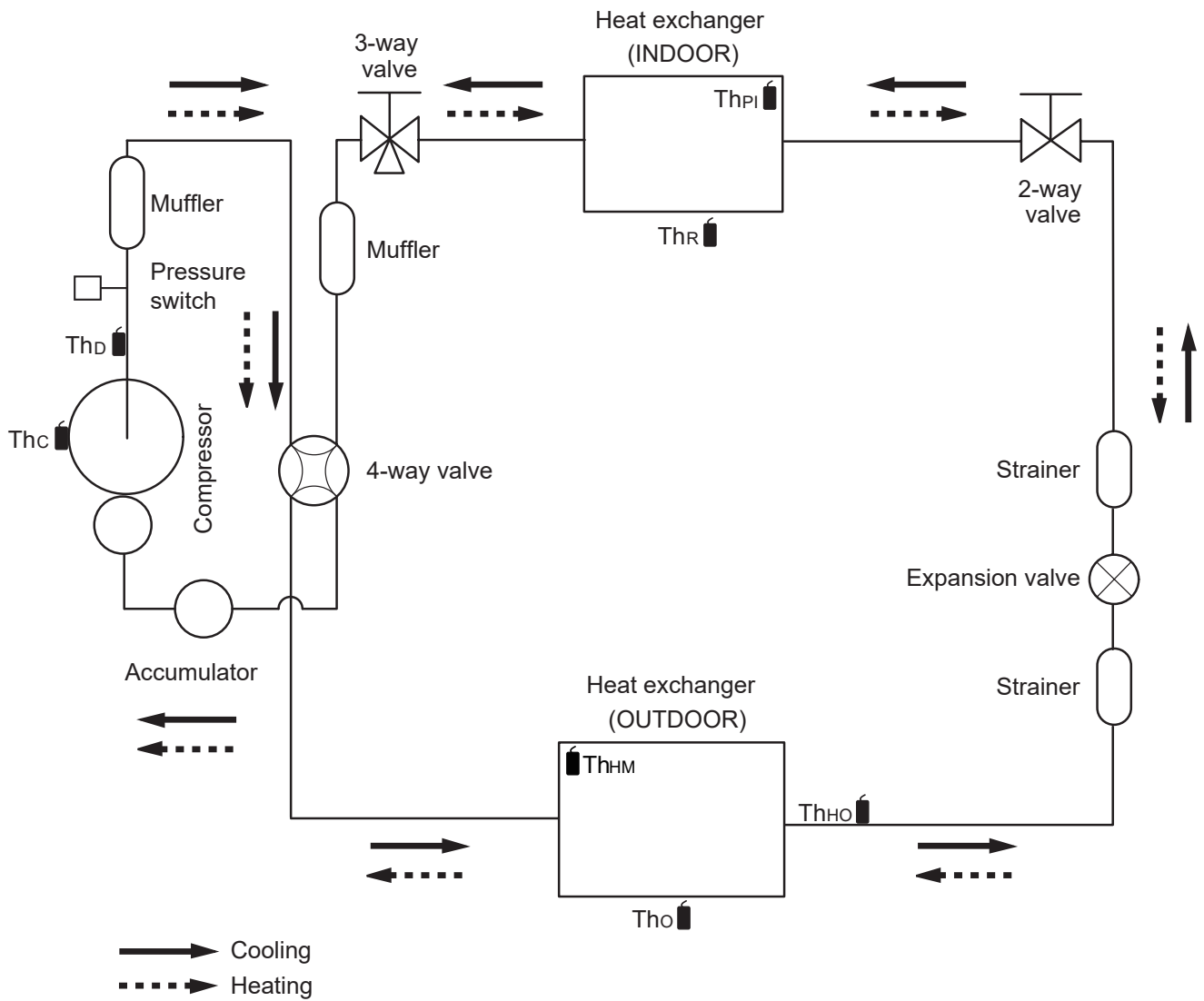
Th_{HO} : Thermistor (Heat exchanger out temperature)

Th_{HM} : Thermistor (Heat exchanger middle temperature)

Th_R : Thermistor (Room temperature)

Th_{PI} : Thermistor (Pipe temperature)

Model: AOYG22KBTB

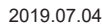


- Thc : Thermistor (Compressor temperature)
- Thd : Thermistor (Discharge temperature)
- Tho : Thermistor (Outdoor temperature)
- Thho : Thermistor (Heat exchanger out temperature)
- Thhm : Thermistor (Heat exchanger middle temperature)
- Thr : Thermistor (Room temperature)
- Thpi : Thermistor (Pipe temperature)

Models : AUXG18KRLB
AUXG22KRLB
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CN8 Thermistor Characteristics.			
Thermistor	Temperature (0 °C)	(20°C)	(30°C)
Thermistor (Room temp.)	33.6 k Ω 1.1 V	12.5 k Ω 2.2 V	8.0 k Ω 2.8 V

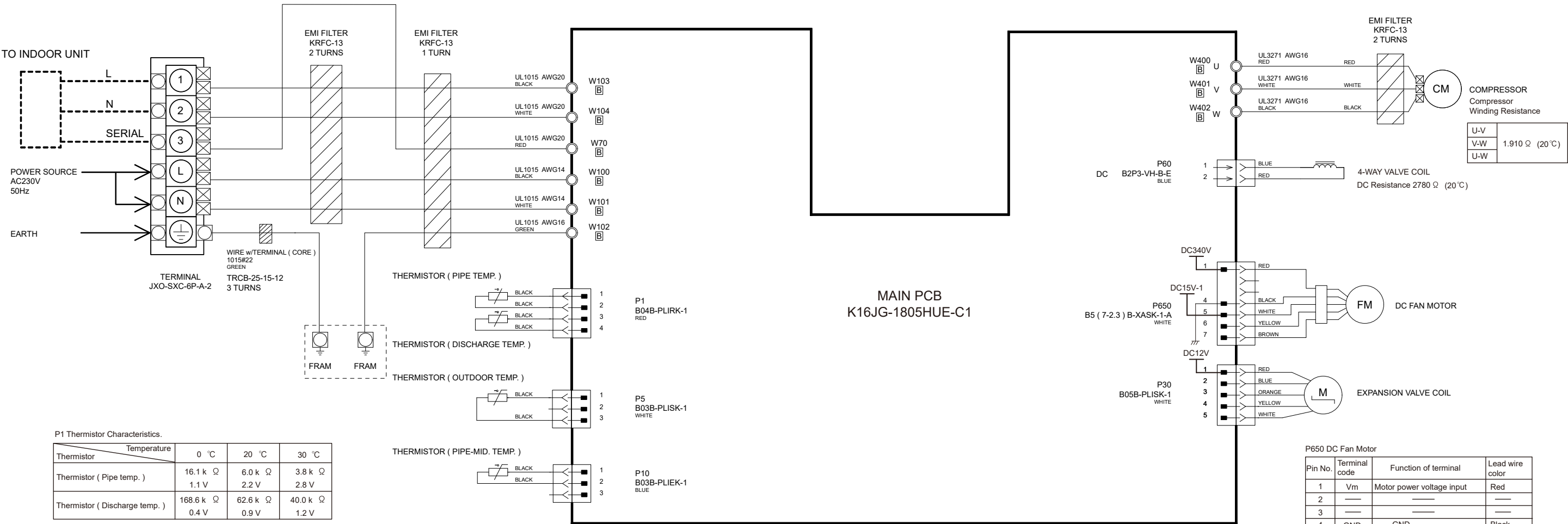
Thermistor	(0 °C)	(20 °C)	(30 °C)
Thermistor (Pipe temp.)	176.0 k Ω 1.1 V	62.9 k Ω 2.2 V	39.6 k Ω 2.8 V



OUTDOOR PRINTED CIRCUIT BOARD
CIRCUIT DIAGRAM

Mode : AOYG18KBTB

INVERTER ASSEMBLY
EZ-018THUE



P1 Thermistor Characteristics.

Thermistor \ Temperature	0 °C	20 °C	30 °C
Thermistor (Pipe temp.)	16.1 k Ω 1.1 V	6.0 k Ω 2.2 V	3.8 k Ω 2.8 V
Thermistor (Discharge temp.)	168.6 k Ω 0.4 V	62.6 k Ω 0.9 V	40.0 k Ω 1.2 V

P5 Thermistor Characteristics.

Thermistor \ Temperature	0 °C	20 °C	30 °C
Thermistor (Outdoor temp.)	35.2 k Ω 2.6 V	12.6 k Ω 3.8 V	8.0 k Ω 4.1 V

P10 Thermistor Characteristics.

Thermistor \ Temperature	0 °C	20 °C	30 °C
Thermistor (Pipe-mid. temp.)	16.1 k Ω 1.1 V	6.0 k Ω 2.2 V	3.8 k Ω 2.8 V

P650 DC Fan Motor

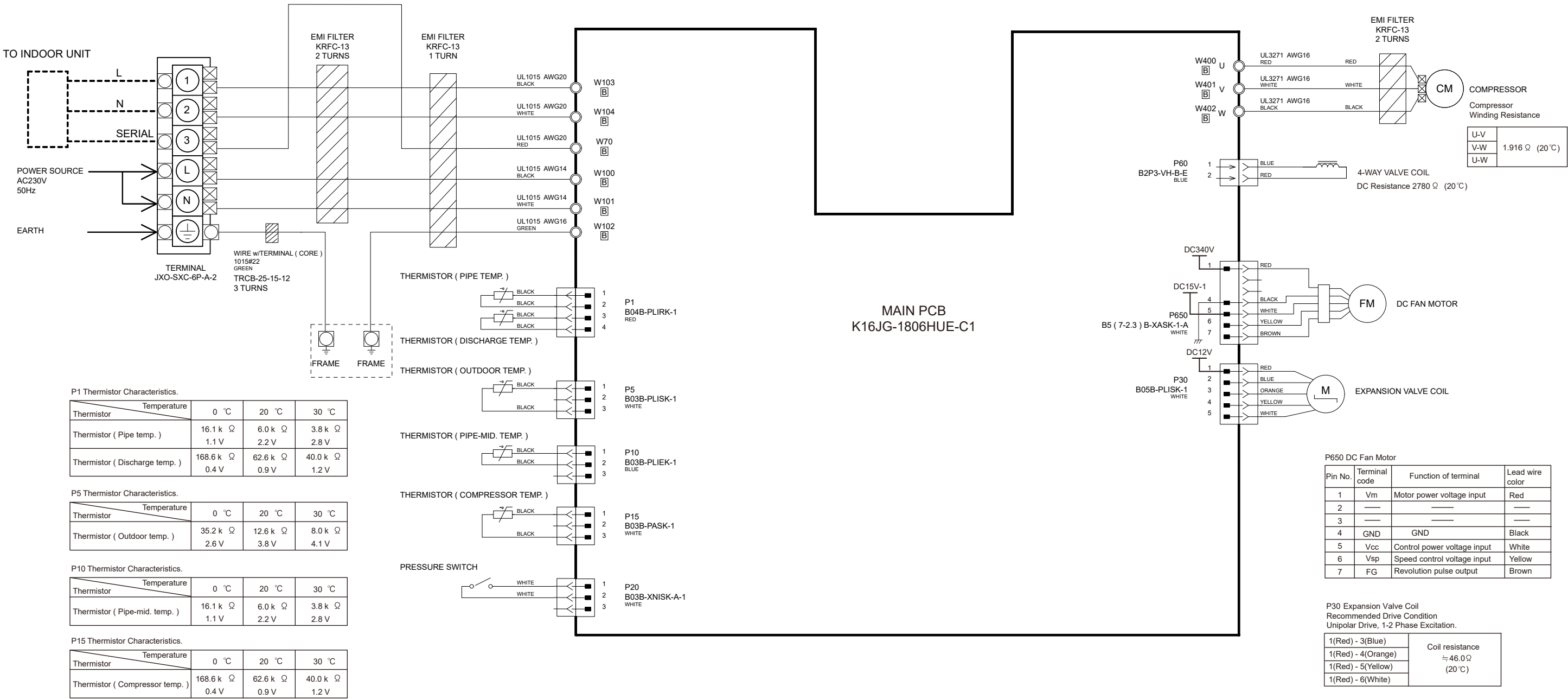
Pin No.	Terminal code	Function of terminal	Lead wire color
1	Vm	Motor power voltage input	Red
2	—	—	—
3	—	—	—
4	GND	GND	Black
5	Vcc	Control power voltage input	White
6	Vsp	Speed control voltage input	Yellow
7	FG	Revolution pulse output	Brown

P30 Expansion Valve Coil
Recommended Drive Condition
Unipolar Drive, 1-2 Phase Excitation.

1(Red) - 2(Blue)	Coil resistance ≈ 46.0 Ω (20 °C)
1(Red) - 3(Orange)	
1(Red) - 4(Yellow)	
1(Red) - 5(White)	

Model : AOYG22KBTB

INVERTER ASSEMBLY
EZ-0118YHUE



Error codes

If you use a wired type remote controller, error codes will appear on the remote controller display. For more information, refer to the installation manual of the remote controller. If you use a wireless remote controller, the lamps on the IR receiver unit will output error codes by way of blinking patterns. See the lamp blinking patterns and error codes in the table below. An error display is displayed only during operation.

Error display			Wired remote controller Error code	Description
OPERATION lamp (green)	TIMER lamp (orange)	ECONOMY lamp (green)		
●(1)	●(1)	◇	11	Serial communication error
●(1)	●(2)	◇	12	Wired remote controller communication error
●(1)	●(5)	◇	15	Check run unfinished
●(1)	●(6)	◇	16	Peripheral unit transmission PCB connection error
●(1)	●(8)	◇	18	External communication error
●(2)	●(1)	◇	21	Unit number or Refrigerant circuit address setting error [Simultaneous Multi]
●(2)	●(2)	◇	22	Indoor unit capacity error
●(2)	●(3)	◇	23	Combination error
●(2)	●(4)	◇	24	• Connection unit number error (indoor secondary unit) [Simultaneous Multi] • Connection unit number error (indoor unit or branch unit) [Flexible Multi]
●(2)	●(6)	◇	26	Indoor unit address setting error
●(2)	●(7)	◇	27	Primary unit, secondary unit setup error [Simultaneous Multi]
●(2)	●(9)	◇	29	Connection unit number error in wired remote controller system
●(3)	●(1)	◇	31	Power supply interruption error
●(3)	●(2)	◇	32	Indoor unit PCB model information error
●(3)	●(5)	◇	35	Manual auto switch error
●(3)	●(9)	◇	39	Indoor unit power supply error for fan motor
●(3)	●(10)	◇	3A	Indoor unit communication circuit (wired remote controller) error
●(4)	●(1)	◇	41	Room temp. sensor error
●(4)	●(2)	◇	42	Indoor unit Heat Ex. Middle temp. sensor error
●(4)	●(4)	◇	44	Human sensor error
●(5)	●(1)	◇	51	Indoor unit fan motor error
●(5)	●(3)	◇	53	Drain pump error
●(5)	●(7)	◇	57	Damper error
●(5)	●(15)	◇	5U	Indoor unit error
●(6)	●(1)	◇	61	Outdoor unit reverse/missing phase and wiring error
●(6)	●(2)	◇	62	Outdoor unit main PCB model information error or communication error
●(6)	●(3)	◇	63	Inverter error
●(6)	●(4)	◇	64	Active filter error, PFC circuit error
●(6)	●(5)	◇	65	Trip terminal L error
●(6)	●(8)	◇	68	Outdoor unit rush current limiting resistor temp. rise error
●(6)	●(10)	◇	6A	Display PCB microcomputers communication error

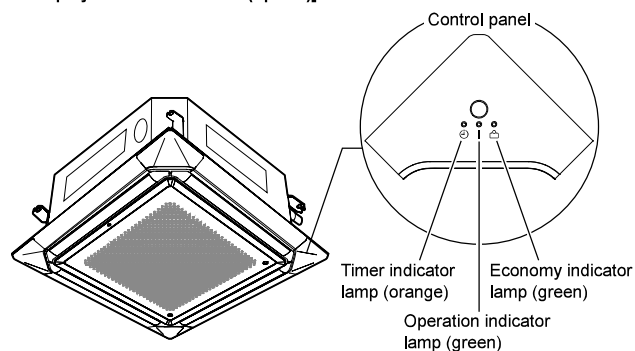
Error display			Wired remote controller Error code	Description
OPERATION lamp (green)	TIMER lamp (orange)	ECONOMY lamp (green)		
●(7)	●(1)	◇	71	Discharge temp. sensor error
●(7)	●(2)	◇	72	Compressor temp. sensor error
●(7)	●(3)	◇	73	Outdoor unit Heat Ex. liquid temp. sensor error
●(7)	●(4)	◇	74	Outdoor temp. sensor error
●(7)	●(5)	◇	75	Suction Gas temp. sensor error
●(7)	●(6)	◇	76	• 2-way valve temp. sensor error • 3-way valve temp. sensor error
●(7)	●(7)	◇	77	Heat sink temp. sensor error
●(8)	●(2)	◇	82	• Sub-cool Heat Ex. gas inlet temp. sensor error • Sub-cool Heat Ex. gas outlet temp. sensor error
●(8)	●(3)	◇	83	Liquid pipe temp. sensor error
●(8)	●(4)	◇	84	Current sensor error
●(8)	●(6)	◇	86	• Discharge pressure sensor error • Suction pressure sensor error • High pressure switch error
●(9)	●(4)	◇	94	Trip detection
●(9)	●(5)	◇	95	Compressor rotor position detection error (permanent stop)
●(9)	●(7)	◇	97	Outdoor unit fan motor 1 error
●(9)	●(8)	◇	98	Outdoor unit fan motor 2 error
●(9)	●(9)	◇	99	4-way valve error
●(9)	●(10)	◇	9A	Coil (expansion valve) error
●(10)	●(1)	◇	A1	Discharge temp. error
●(10)	●(3)	◇	A3	Compressor temp. error
●(10)	●(4)	◇	A4	High pressure error
●(10)	●(5)	◇	A5	Low pressure error
●(13)	●(2)	◇	J2	Branch boxes error [Flexible Multi]

Display mode ● : 0.5s ON / 0.5s OFF

◇ : 0.1s ON / 0.1s OFF

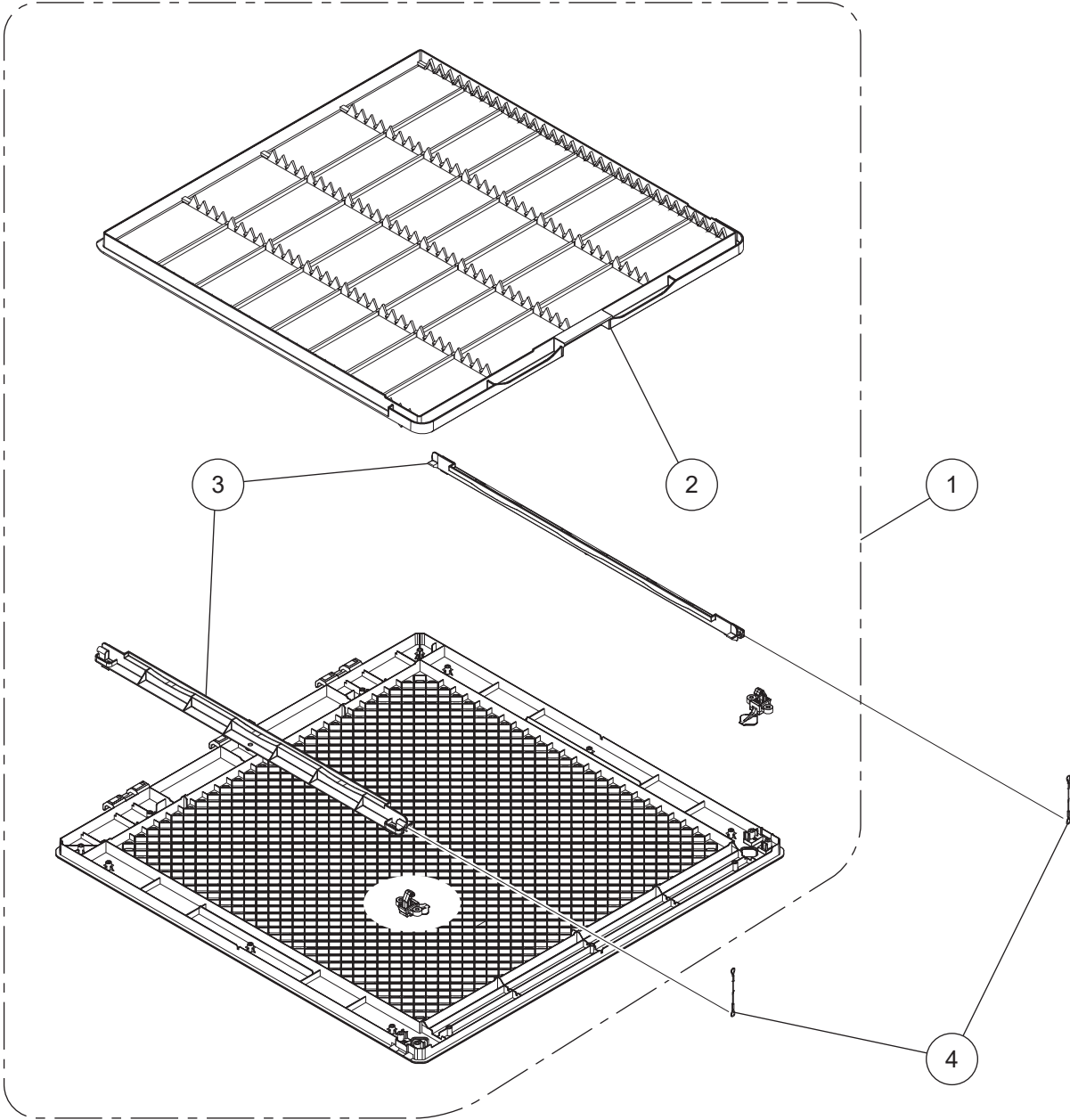
() : Number of flashing

[Error display on the indoor unit (option)]



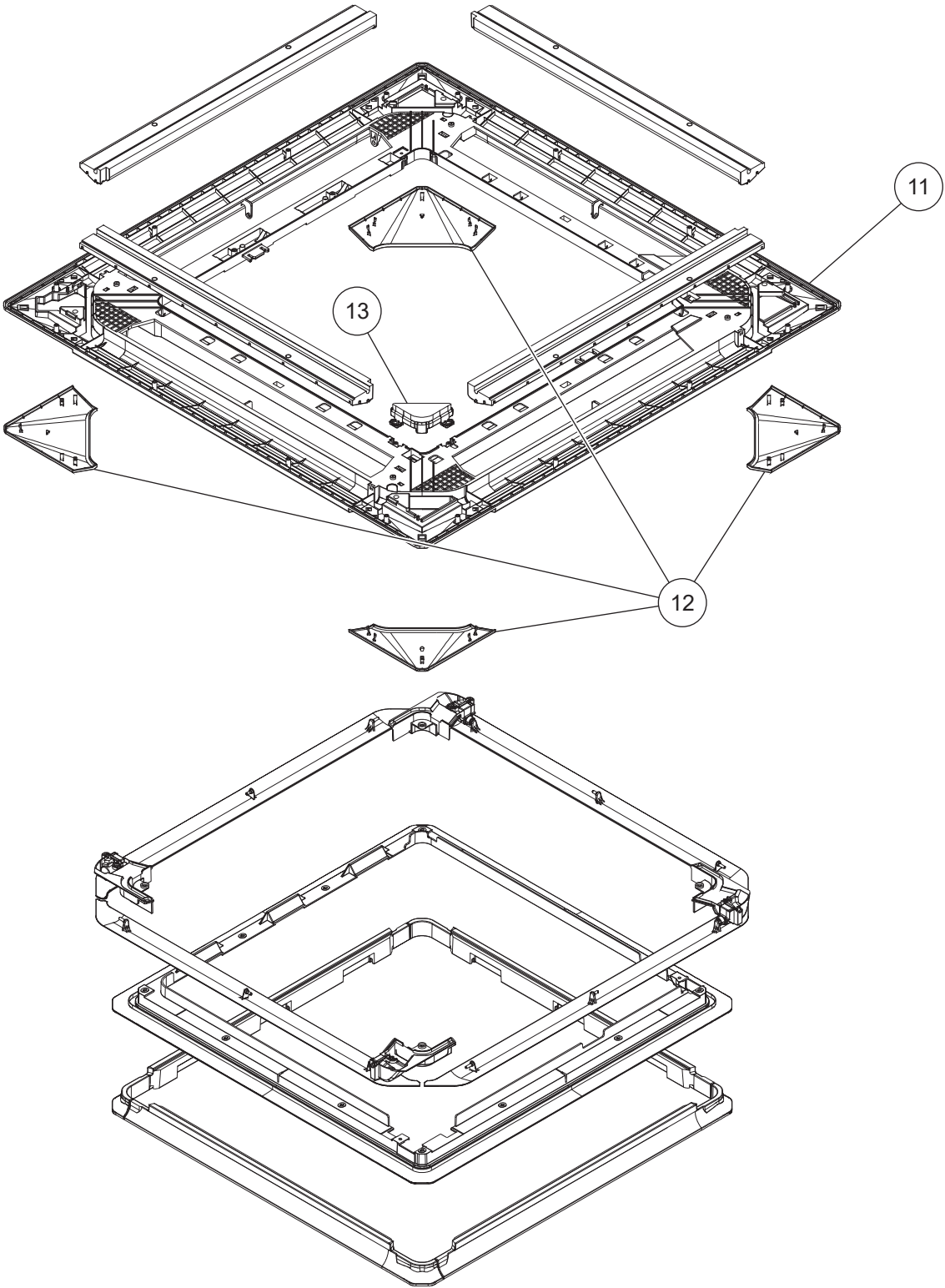
Parts

DECORATION PANEL
UTG-UKYC-W



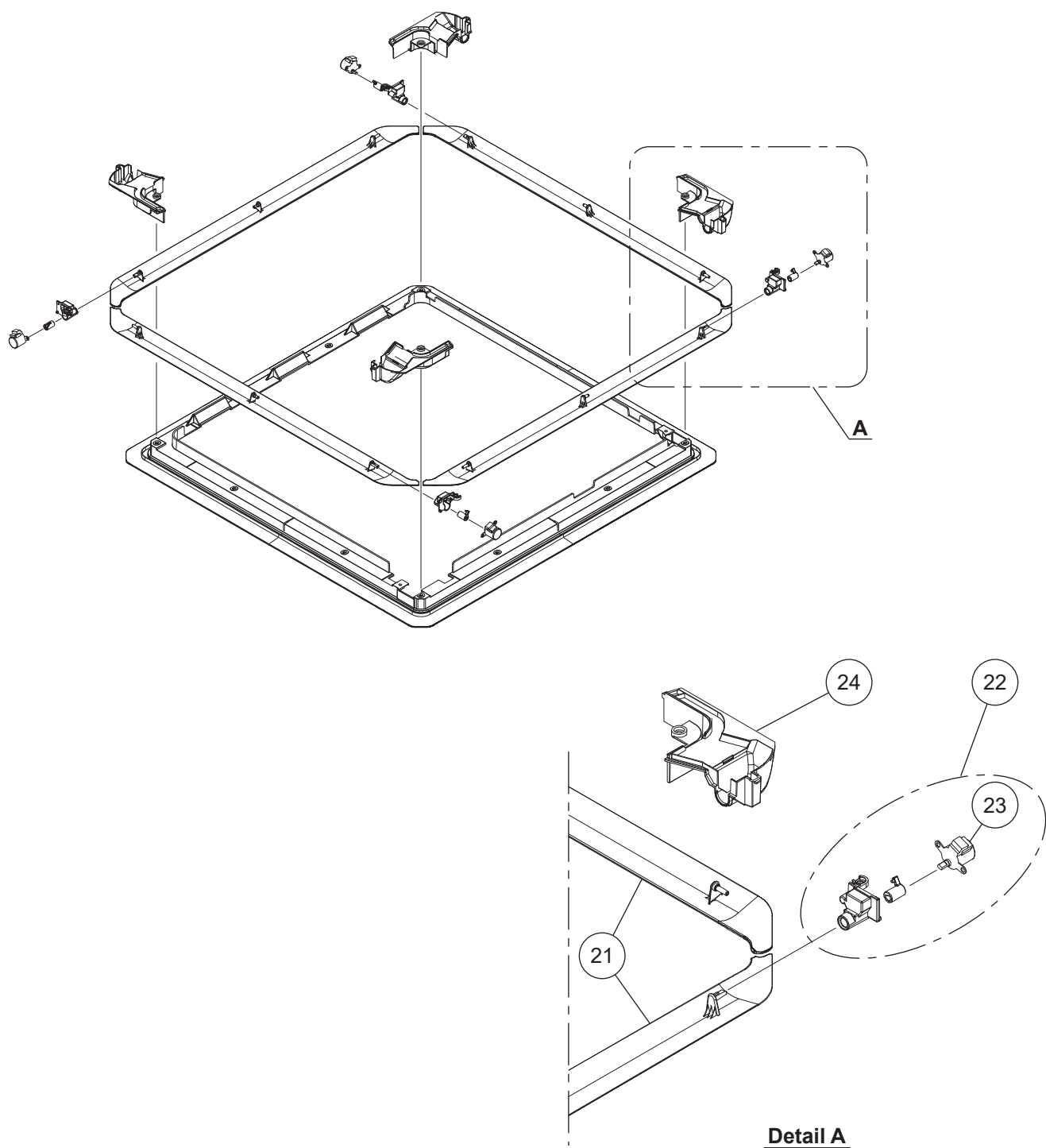
Ref No.	Description	Parts No.
1	Intake Grille Assy	9381691005
2	Long Life Filter	9378252028
3	Filter Guide	9378253018
4	Hook Wire	9378597020

DECORATION PANEL
UTG-UKYC-W



Ref No.	Description	Parts No.
11	Decoration Panel	9381352005
12	Corner Panel Assy	9381711000
13	Drain Cover Assy	9381713004

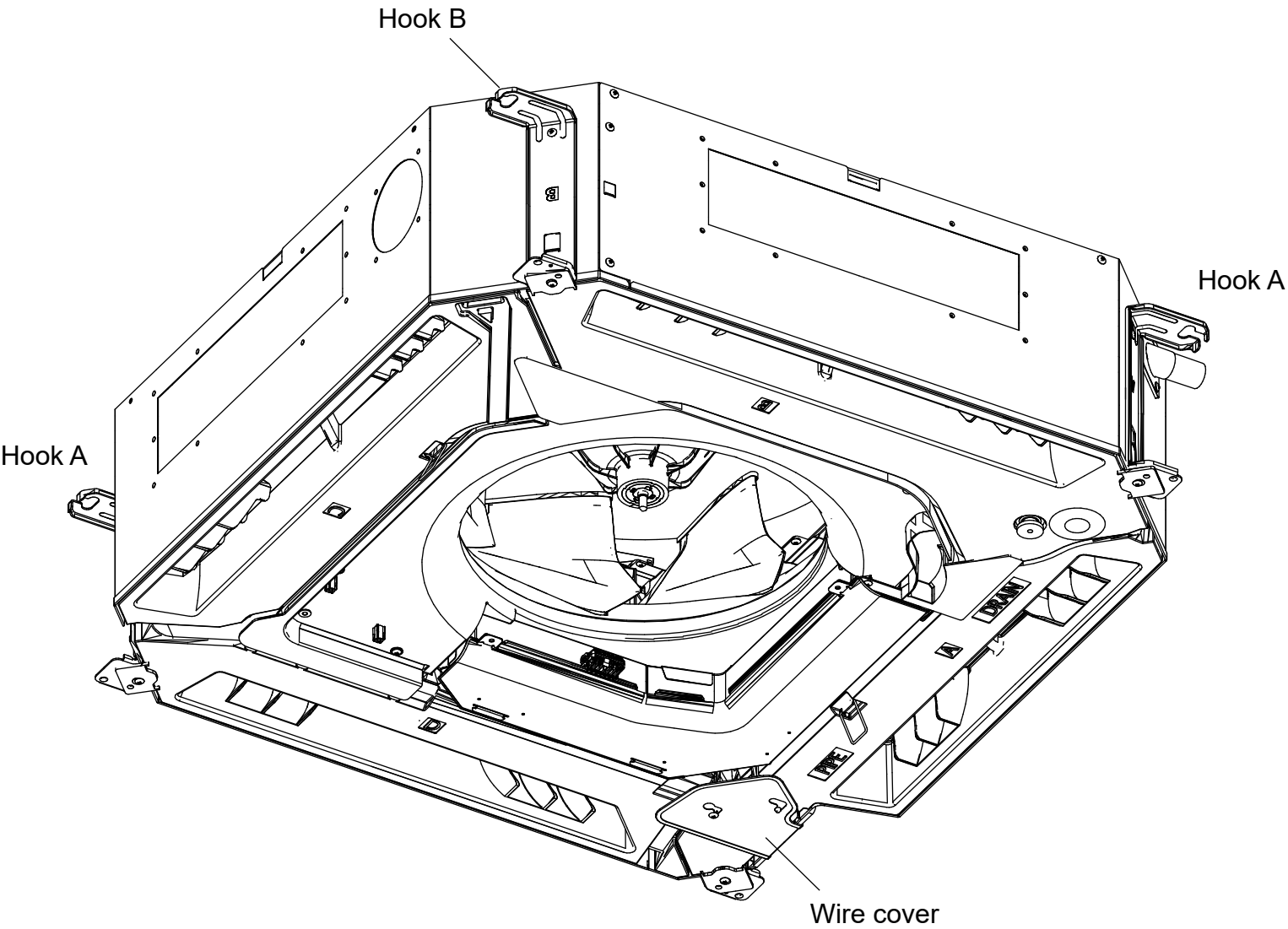
DECORATION PANEL
UTG-UKYC-W



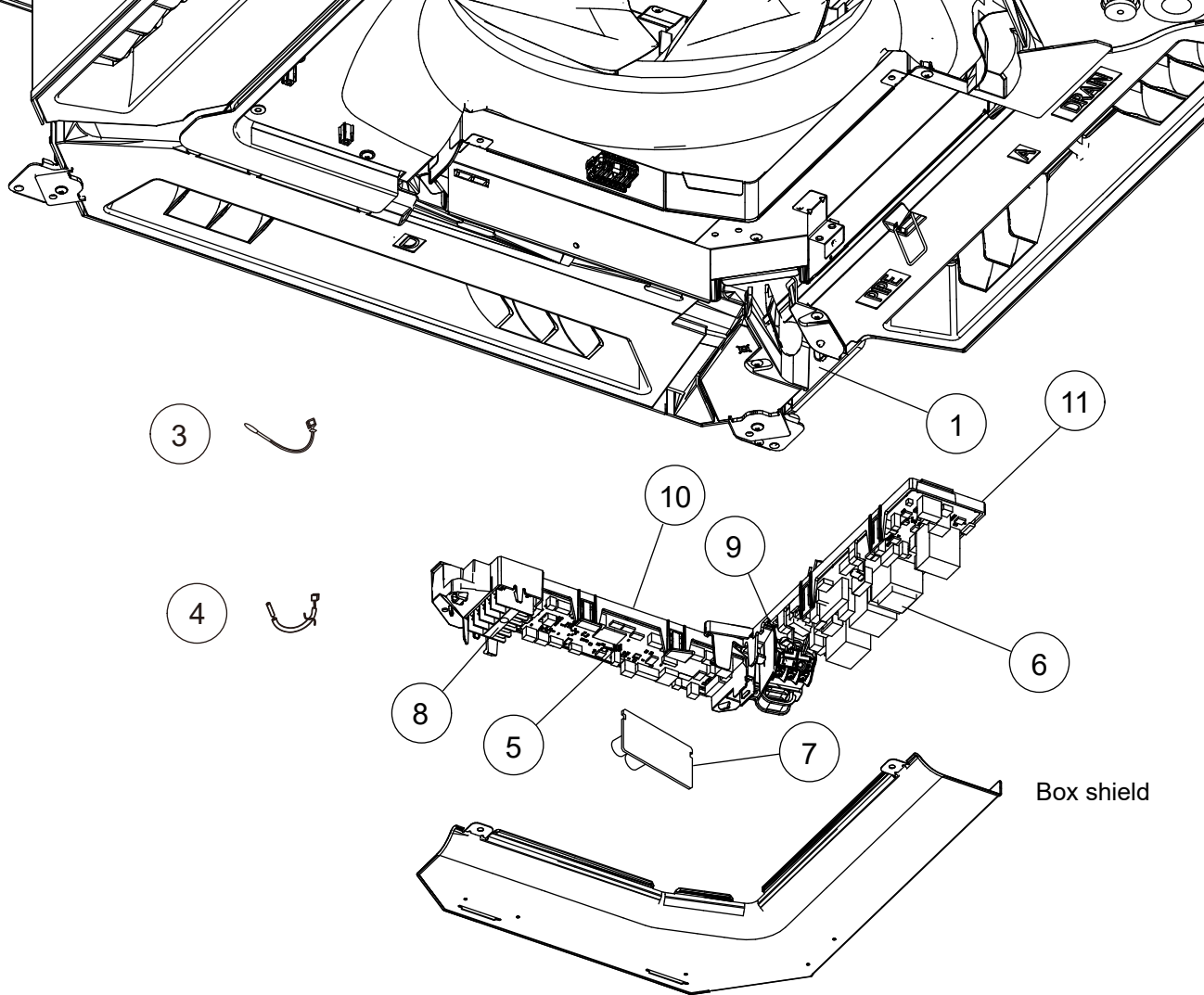
Ref No.	Description	Parts No.
21	Louver Assy	9381693009
22	Motor Case Assy	9381712007
23	Step Motor	9900885007
24	Motor Cover	9381354009
---	Wire (Step Motor)	9710175008

PARTS

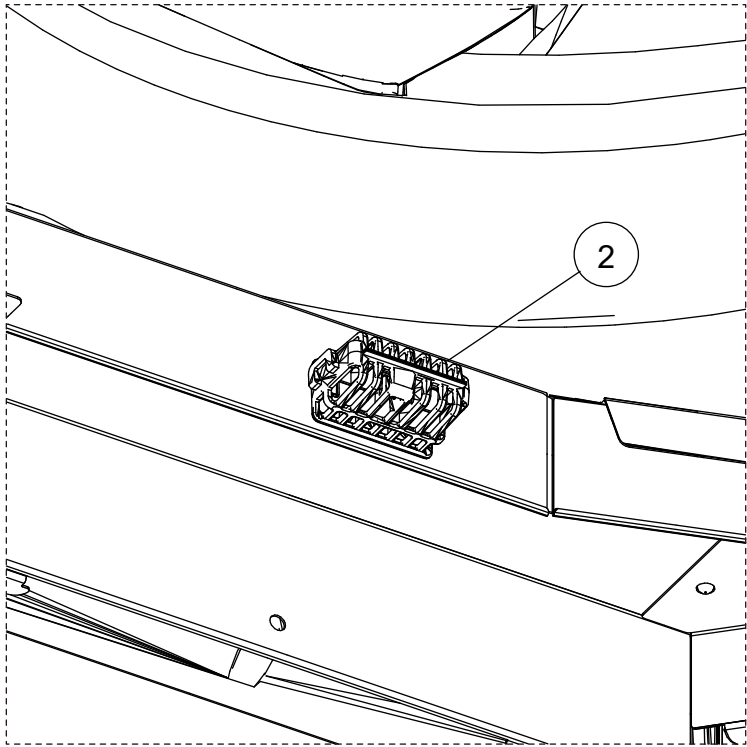
INDOOR UNIT
AUXG18KRLB
AUXG22KRLB



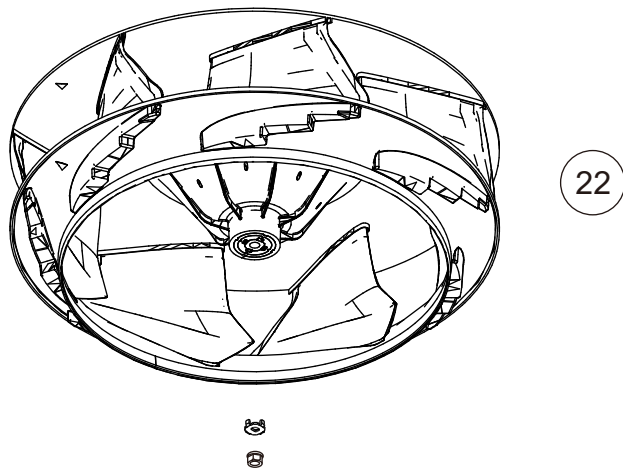
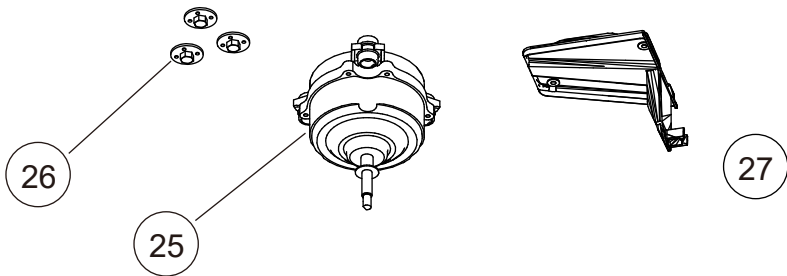
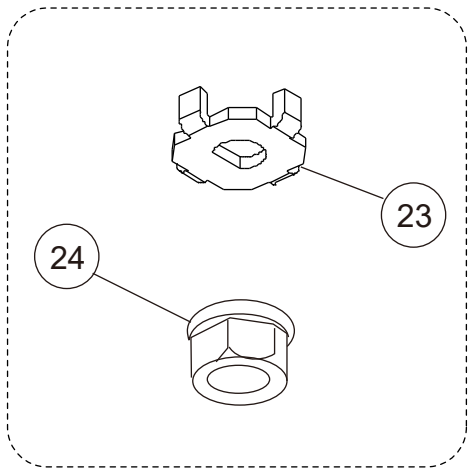
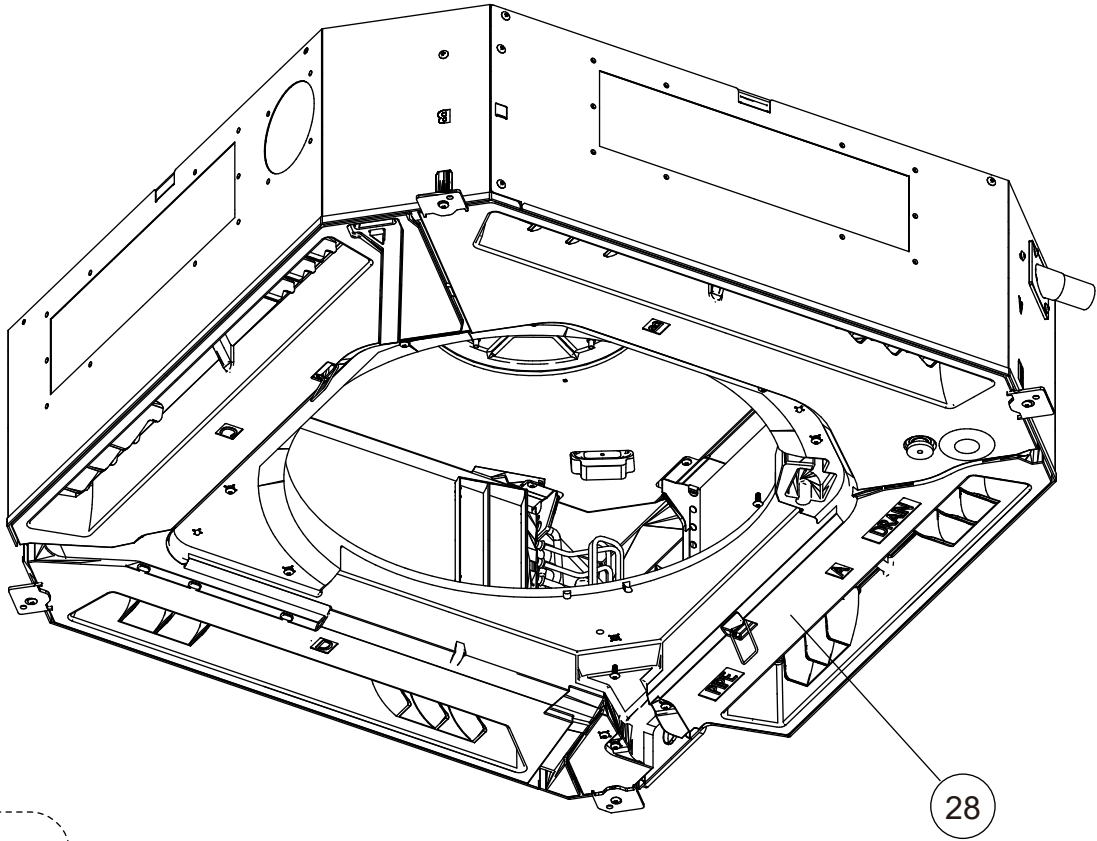
INDOOR UNIT
AUXG18KRLB
AUXG22KRLB



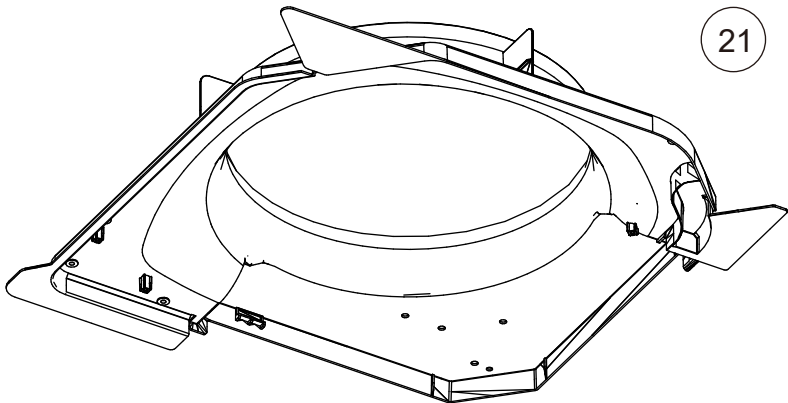
Ref.	Description	Part number
1	Cable guide	9381376001
2	Room thermistor Holder	9381348008
3	Room thermistor	9900822002
4	Pipe Thermistor	9900942014
5	Main PCB (AUXG18KRLB)	9710995835
5	Main PCB (AUXG22KRLB)	9710995712
6	Power PCB	9710022005
7	PCB (Non-polar 2-wire)	9710019005
8	Remote terminal 5P	9900896003
9	Power Terminal 3P	9900720032
10	Main PCB holder	9381350001
11	Power PCB Holder	9381349005



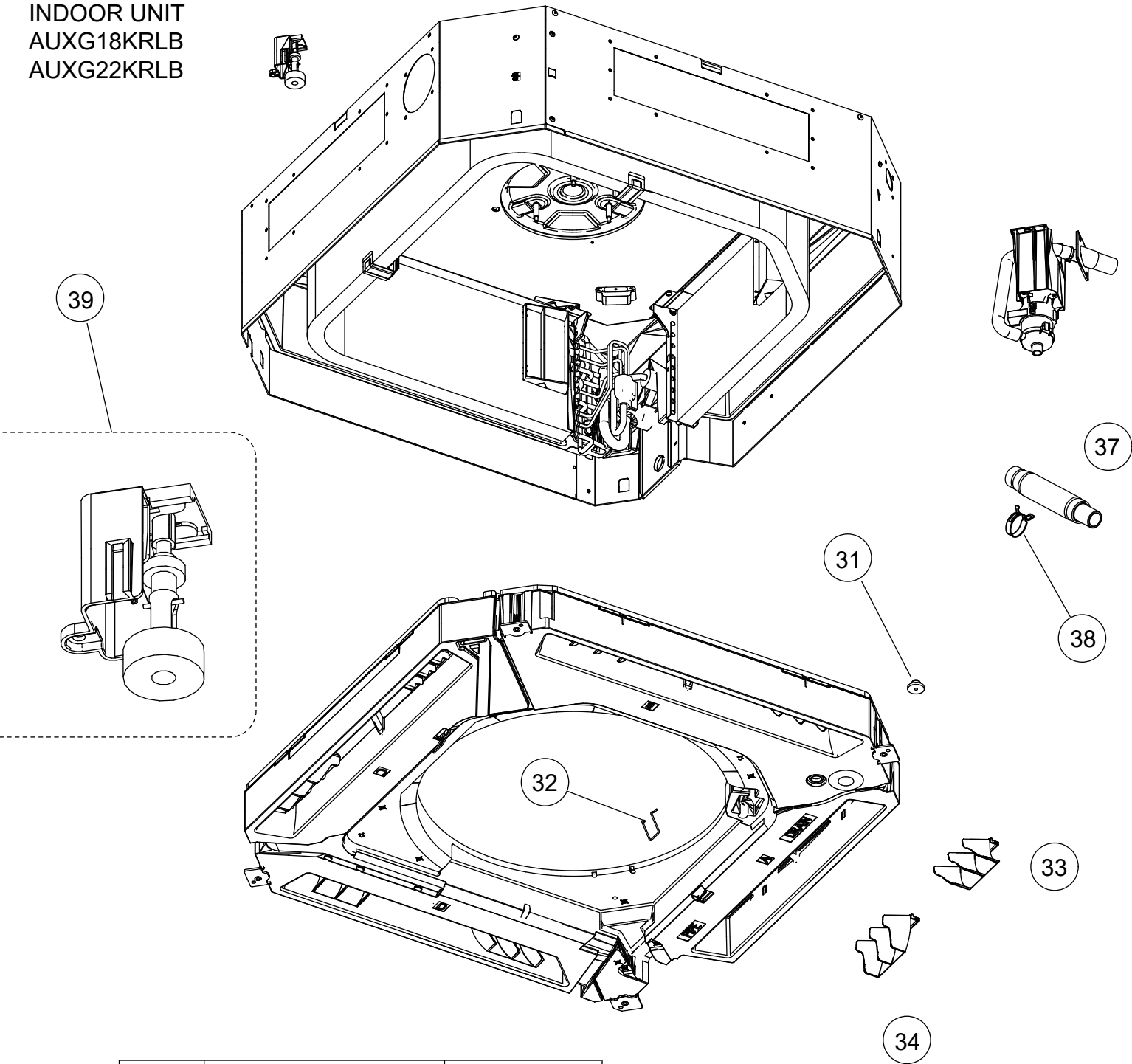
INDOOR UNIT
AUXG18KRLB
AUXG22KRLB



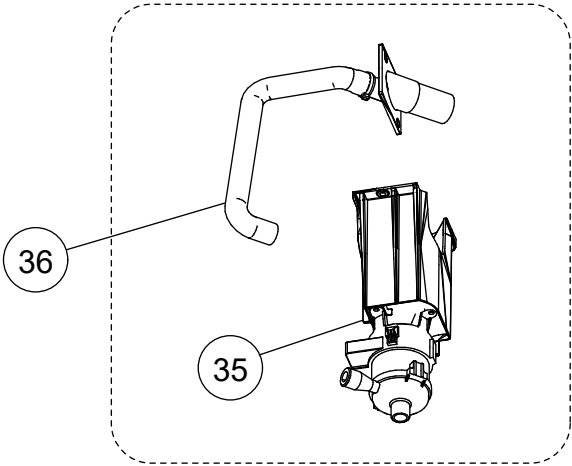
Ref.	Description	Part number
21	Bellmouth	9381484003
22	Turbo fan assy	9381303007
23	Turbo Fan Washer	9378394018
24	Nut	9356998009
25	Brushless motor	9603443009
26	Special Nut	9378388017
27	Motor Wire Holder	9381351008
28	Drain pan sub assy	9381789009



INDOOR UNIT
AUXG18KRLB
AUXG22KRLB

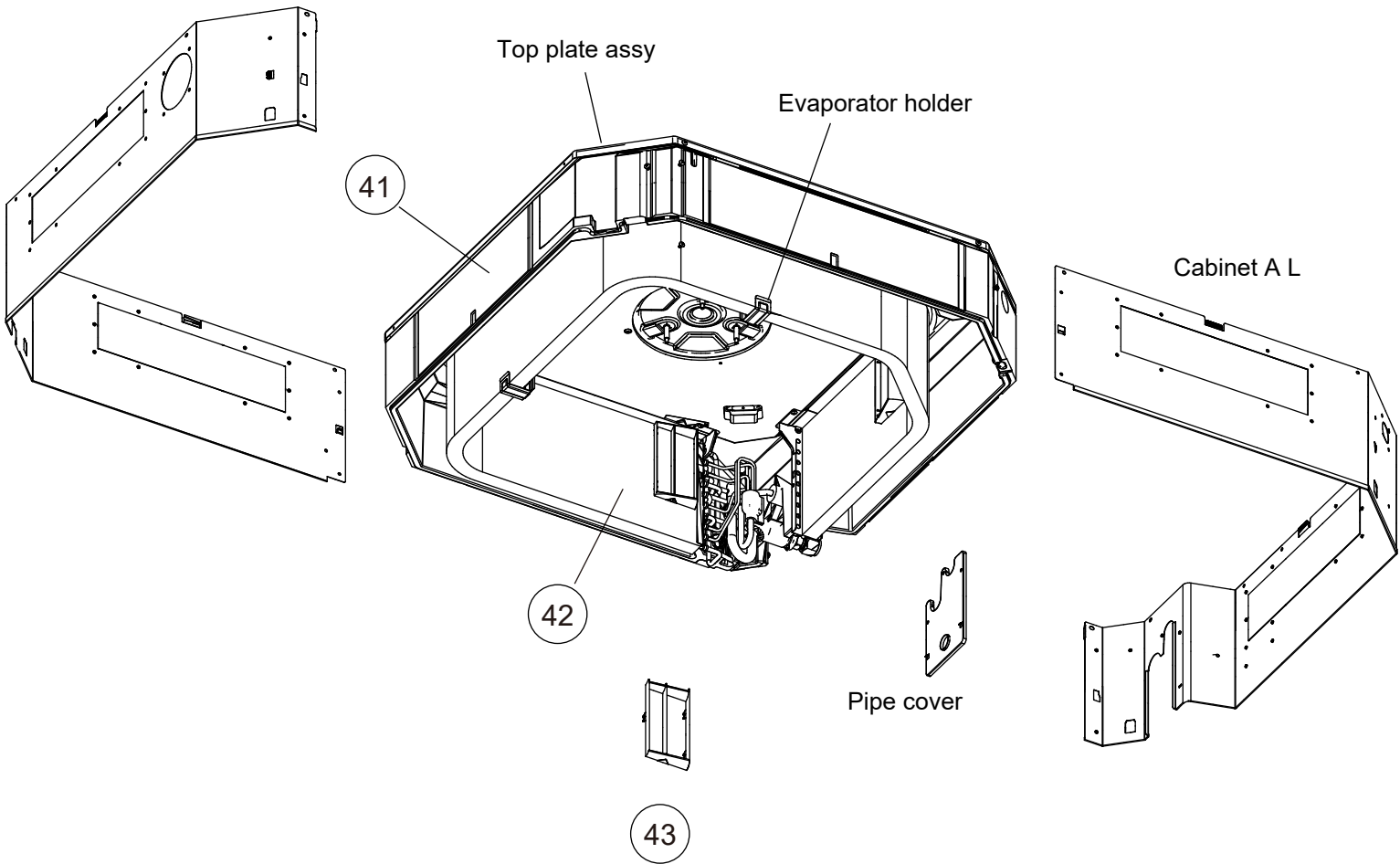


Ref.	Description	Part number
31	Drain Cap	9375502010
32	Panel Hook	9375671013
33	Vane L	9381745012
34	Vane R	9381744008
35	Drain Pump Sub Assy	9381793006
36	Drain Port Sub Assy	9381788002
37	Drain Hose	9379665001
38	Hose Band	9379757010
39	Float Switch Sub Assy	9381794003



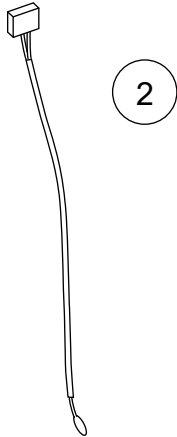
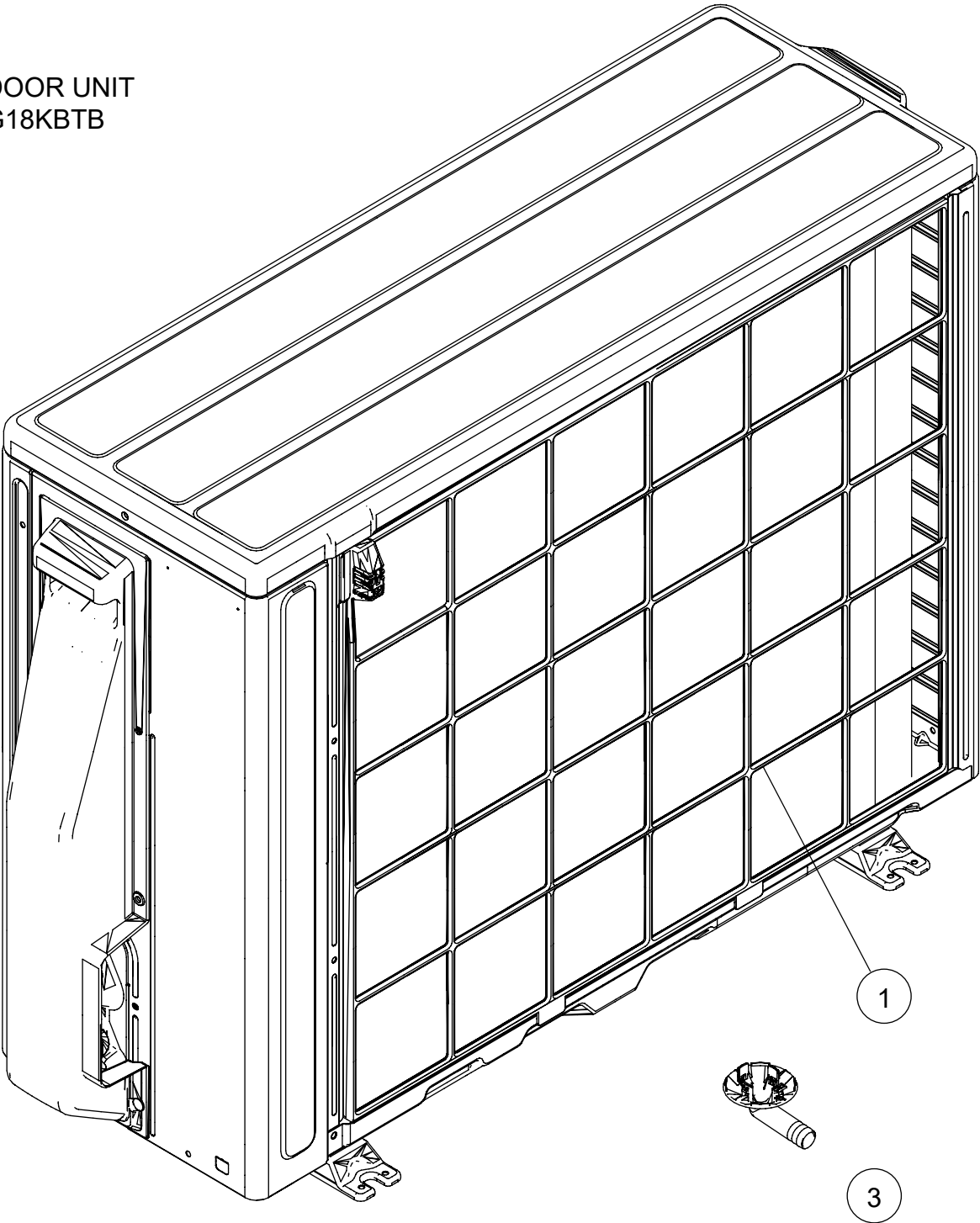
INDOOR UNIT
AUXG18KRLB
AUXG22KRLB

Cabinet B sub assy



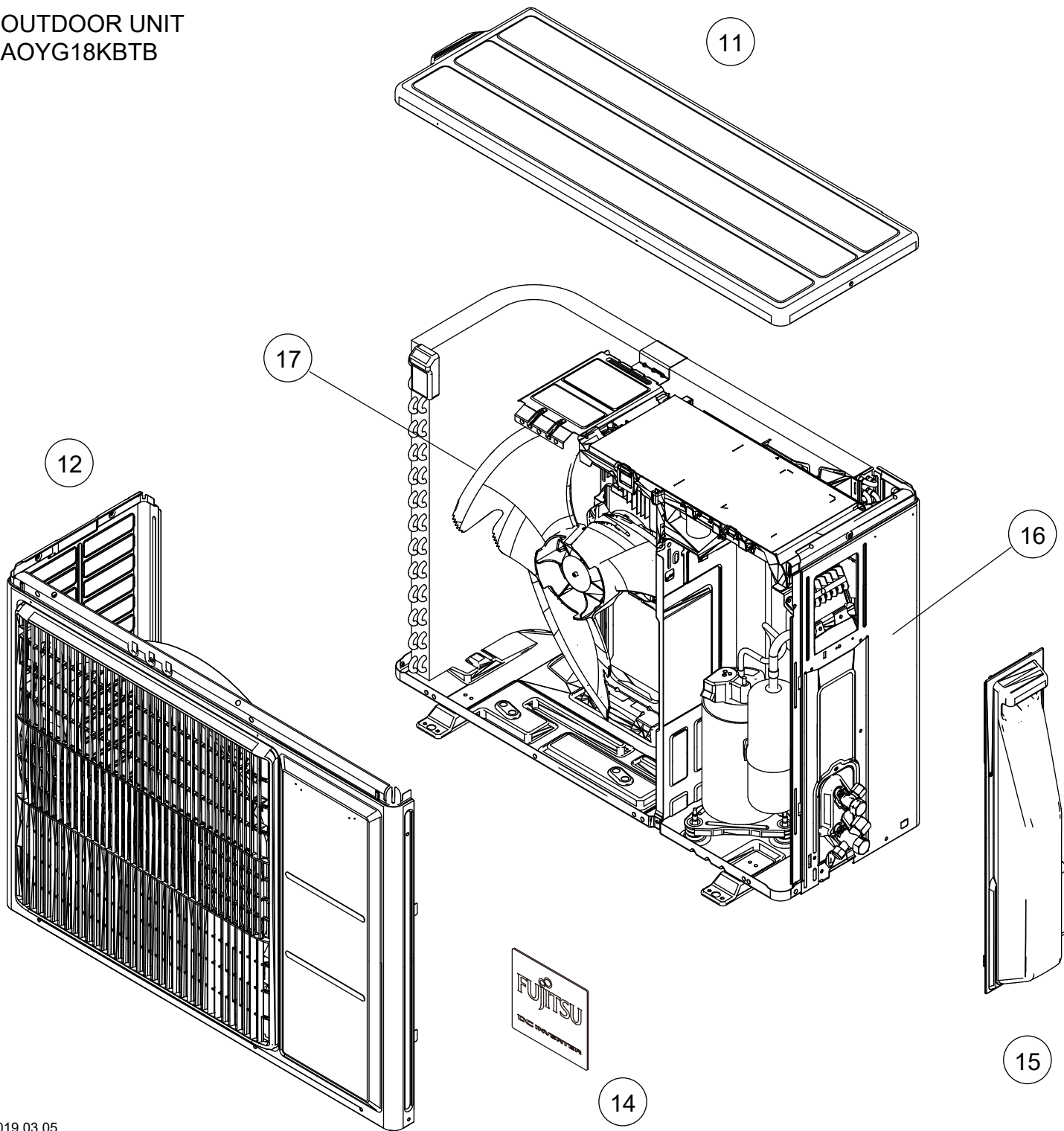
Ref.	Description	Part number
41	Insulation Box Sub Assy	9381787012
42	Evaporator Total Assy	9378580480
43	Wind Guide Board	9382125004

OUTDOOR UNIT
AOYG18KBTB



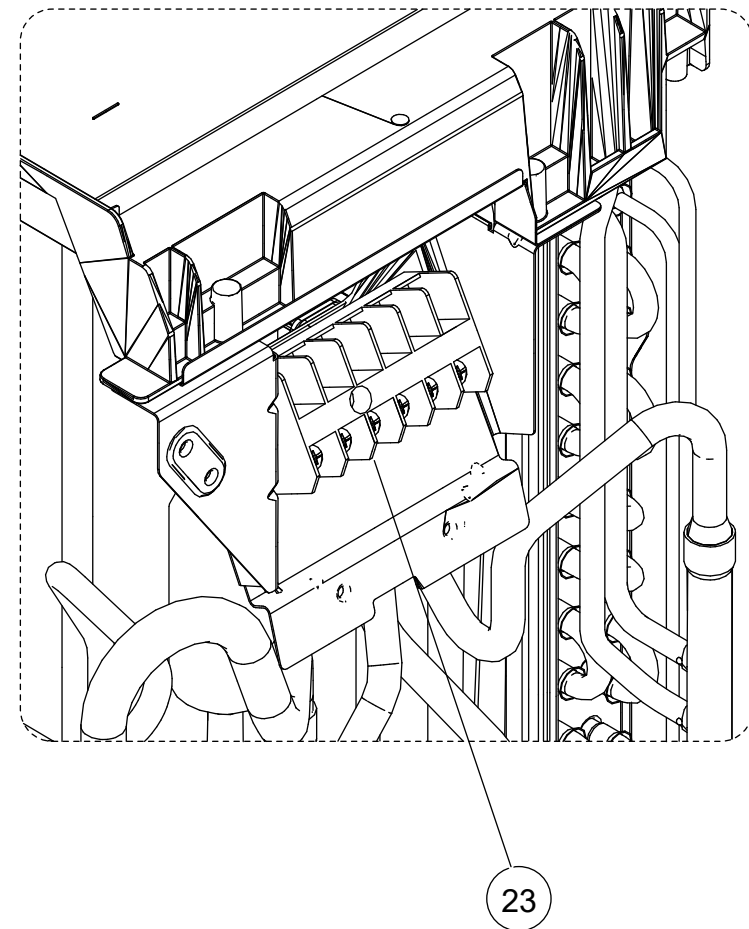
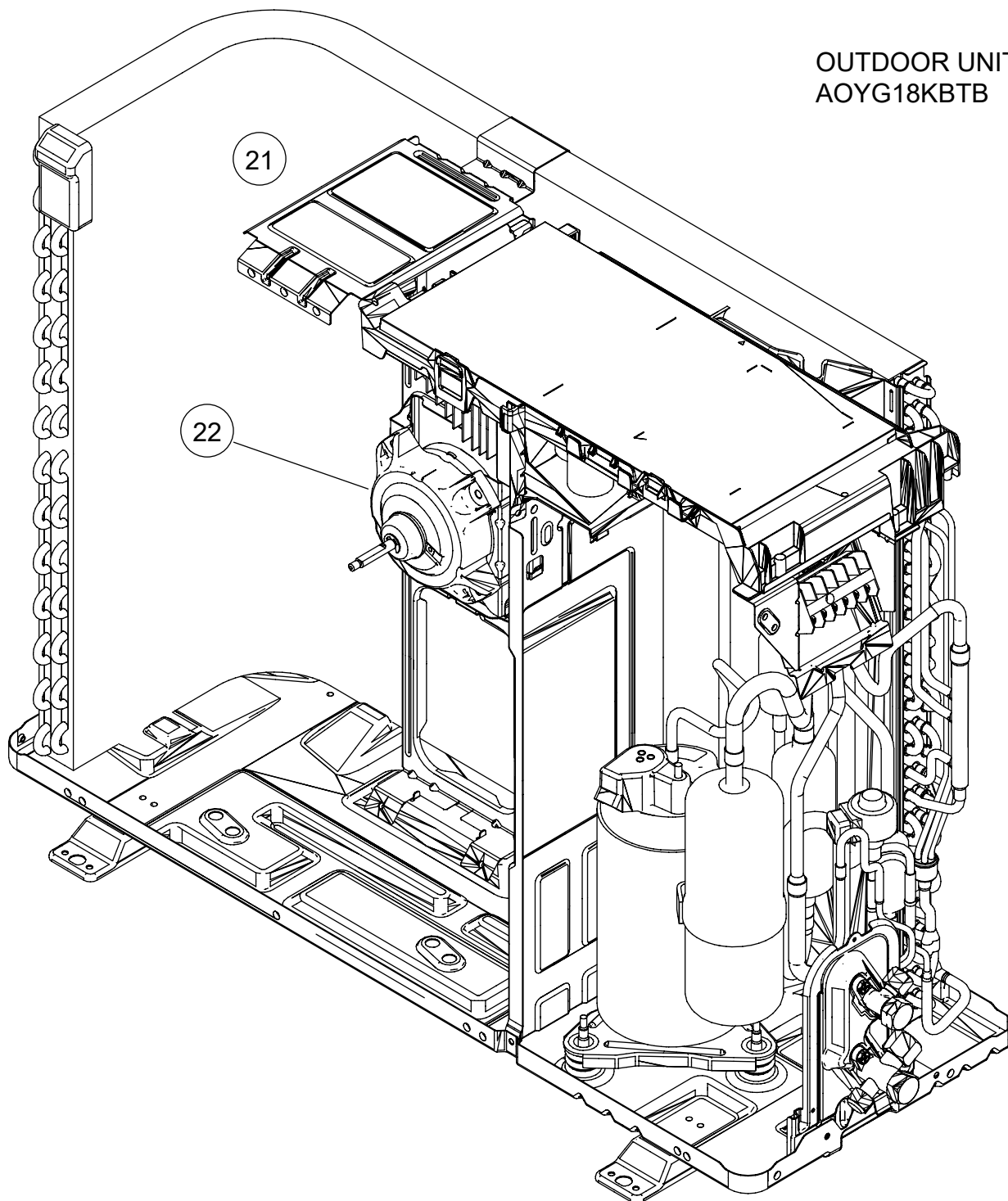
Ref.	Description	Part number
1	Protective net assy	9322811028
2	Outdoor thermistor	9900565060
3	Drain pipe	9322144003

OUTDOOR UNIT
AOYG18KBTB



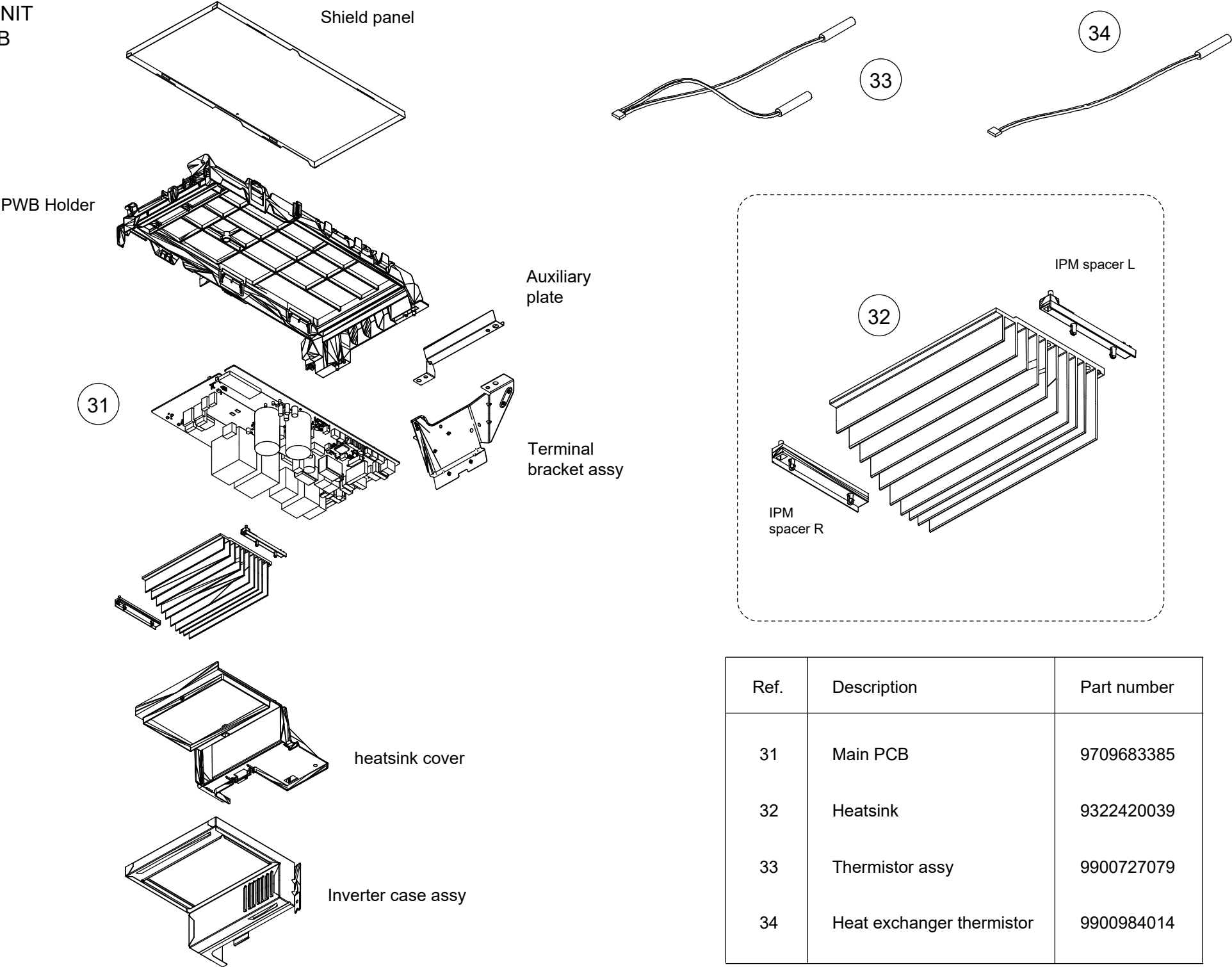
Ref.	Description	Part number
11	Top panel assy	9322556028
12	Front panel assy	9322555021
13	Blow grille	9322149008
14	Emblem	9319151007
15	Switch cover assy	9322570024
16	Cabinet right assy	9322552099
17	Propeller fan	9322150004

OUTDOOR UNIT AOYG18KBTB



Ref.	Description	Part number
21	Motor bracket assy	9322553027
22	Brushless motor	9603601003
23	Terminal	9900435028

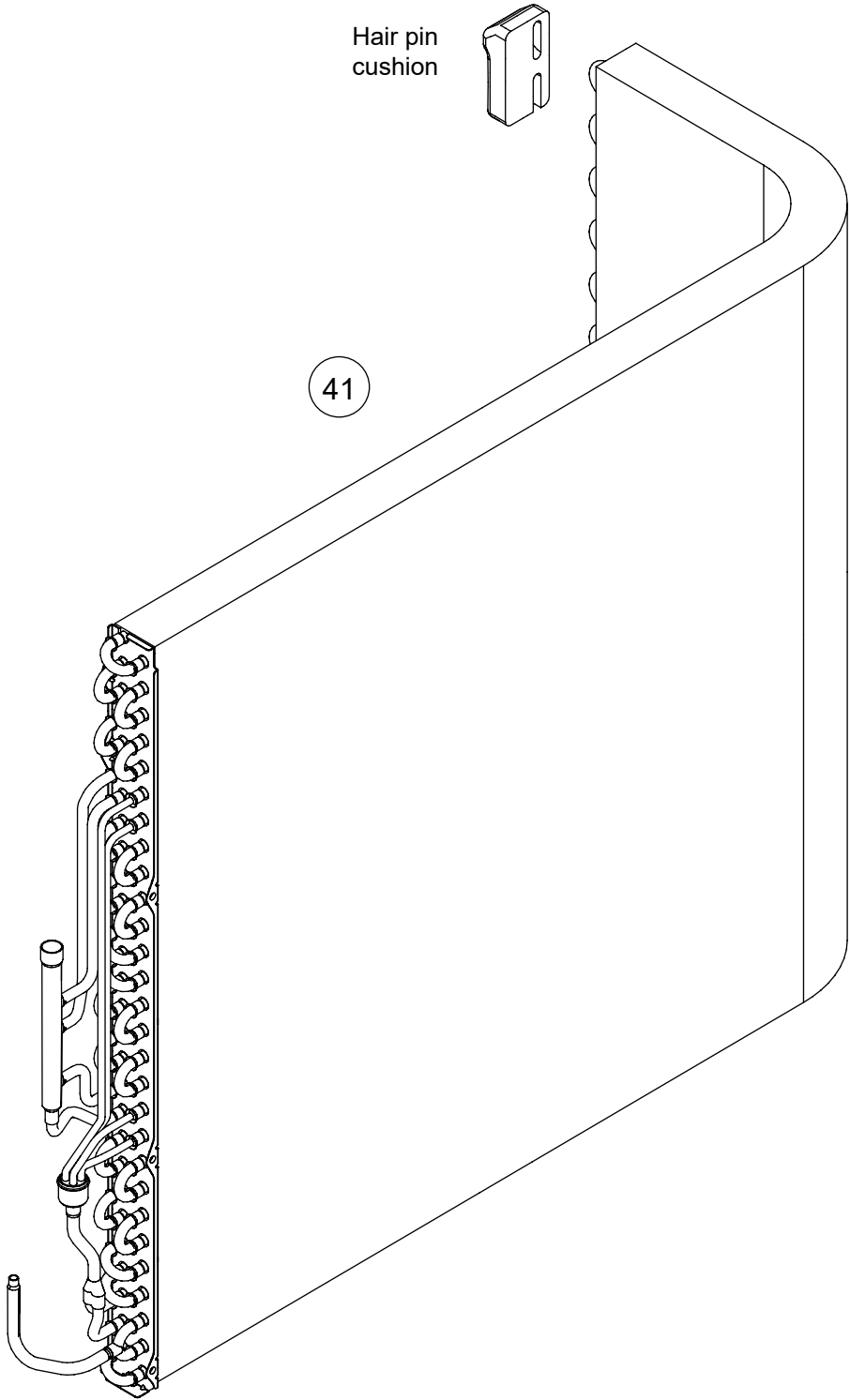
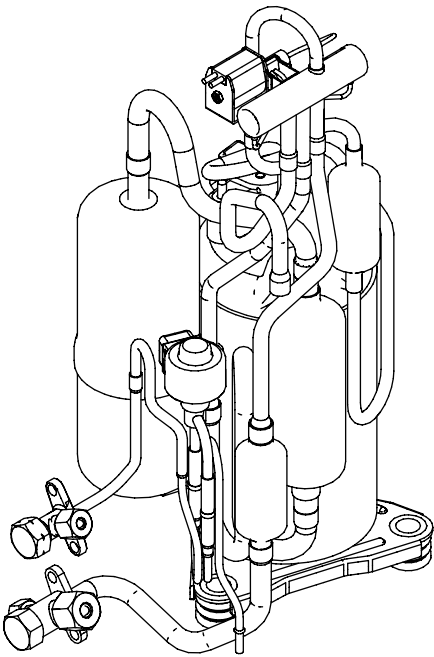
OUTDOOR UNIT
AOYG18KBTB



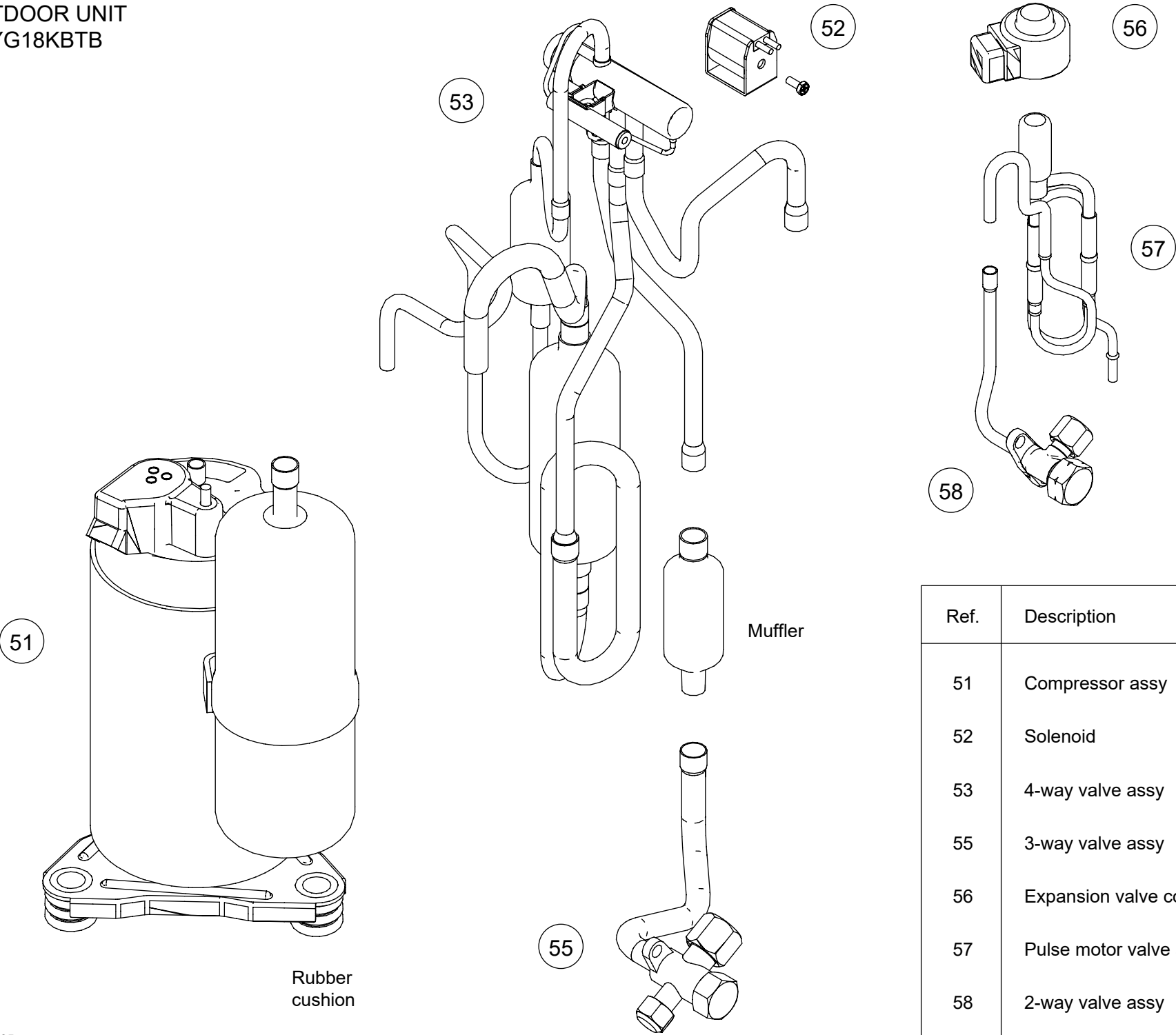
Ref.	Description	Part number
31	Main PCB	9709683385
32	Heatsink	9322420039
33	Thermistor assy	9900727079
34	Heat exchanger thermistor	9900984014

OUTDOOR UNIT
AOYG18KBTB

Ref.	Description	Part number
41	Heat exchanger unit (Condenser total assy+ Thermistor holder pipe+ Hair pin cushion)	9323834194
-	S-insulator B	9322500007
-	S-insulator F	9322847003
-	S-insulator H	9322501004
-	S-insulator V	9323045002

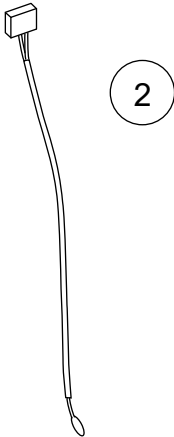
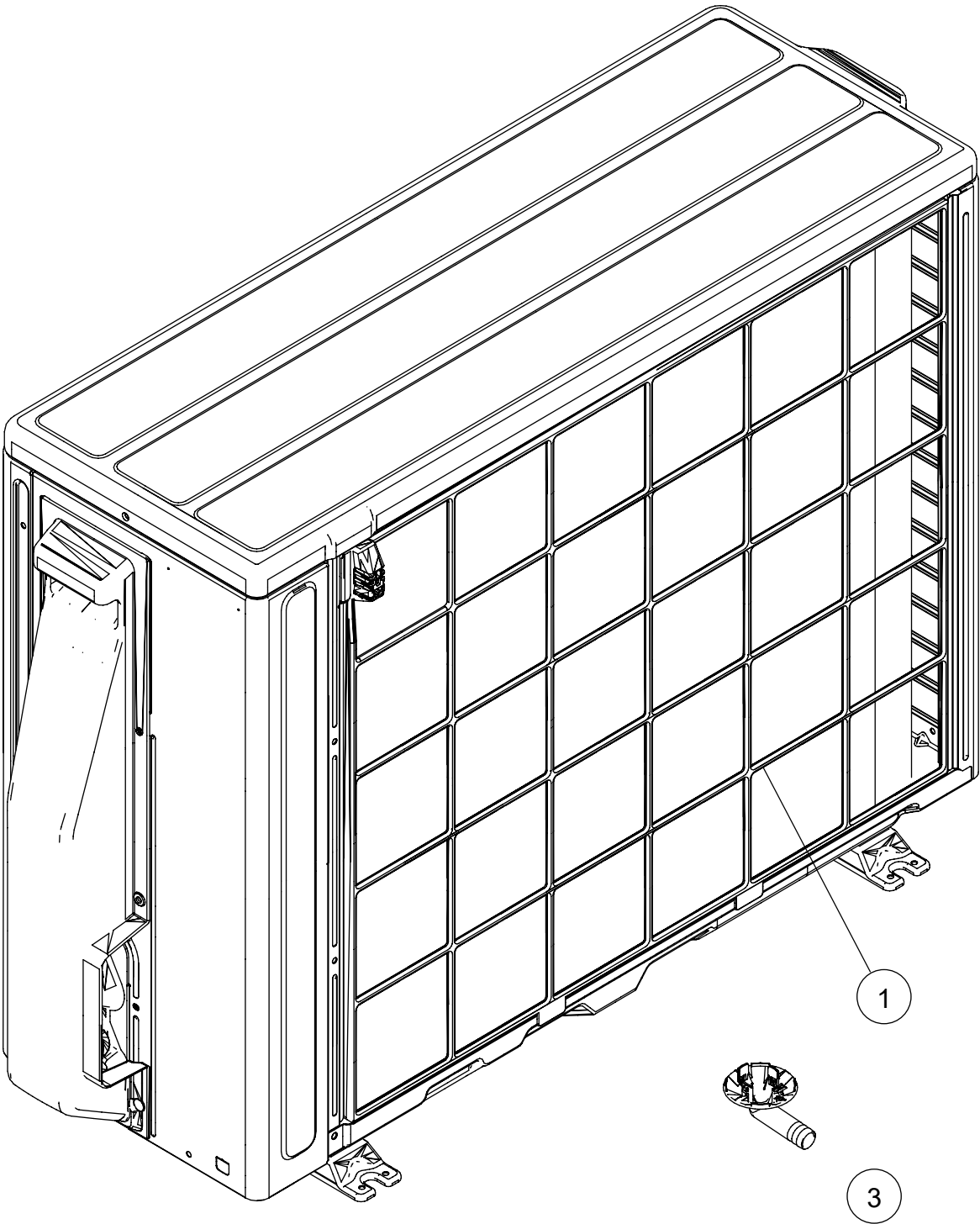


OUTDOOR UNIT
AOYG18KBTB



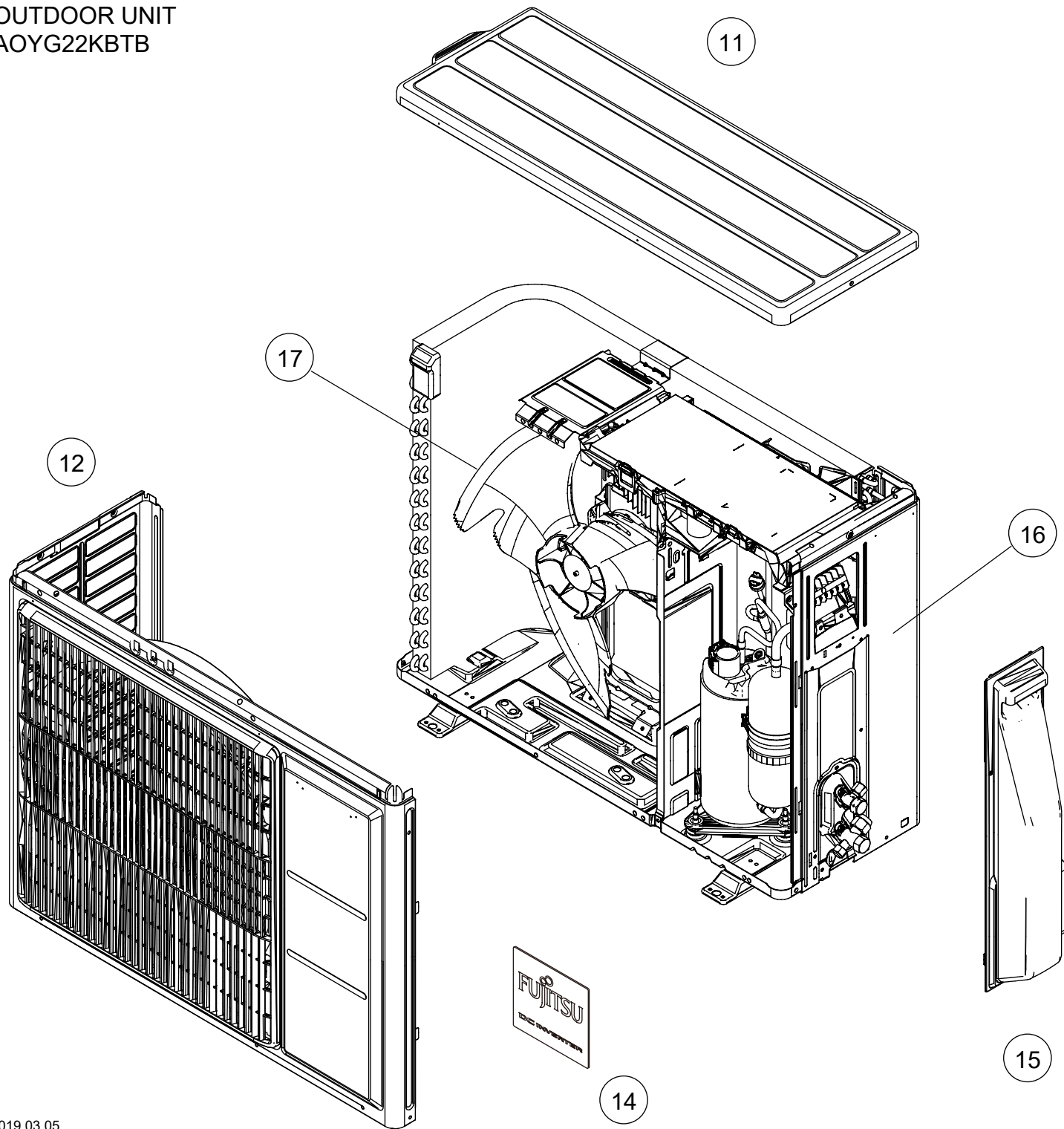
Ref.	Description	Part number
51	Compressor assy	9322433008
52	Solenoid	9970195006
53	4-way valve assy	9322783004
55	3-way valve assy	9387831016
56	Expansion valve coil	9970173028
57	Pulse motor valve assy	9322463029
58	2-way valve assy	9322474001

OUTDOOR UNIT
AOYG22KBTB



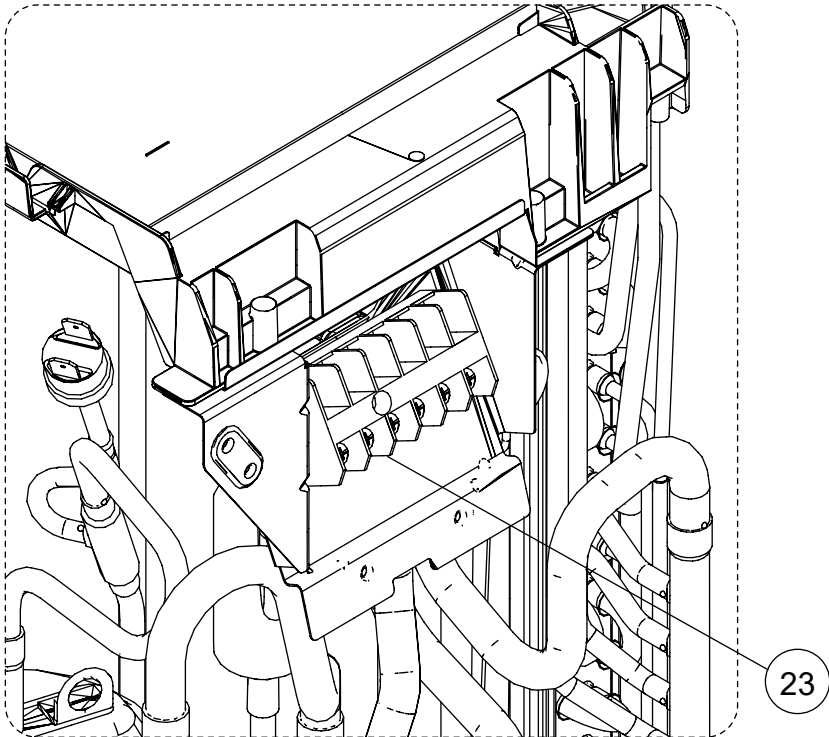
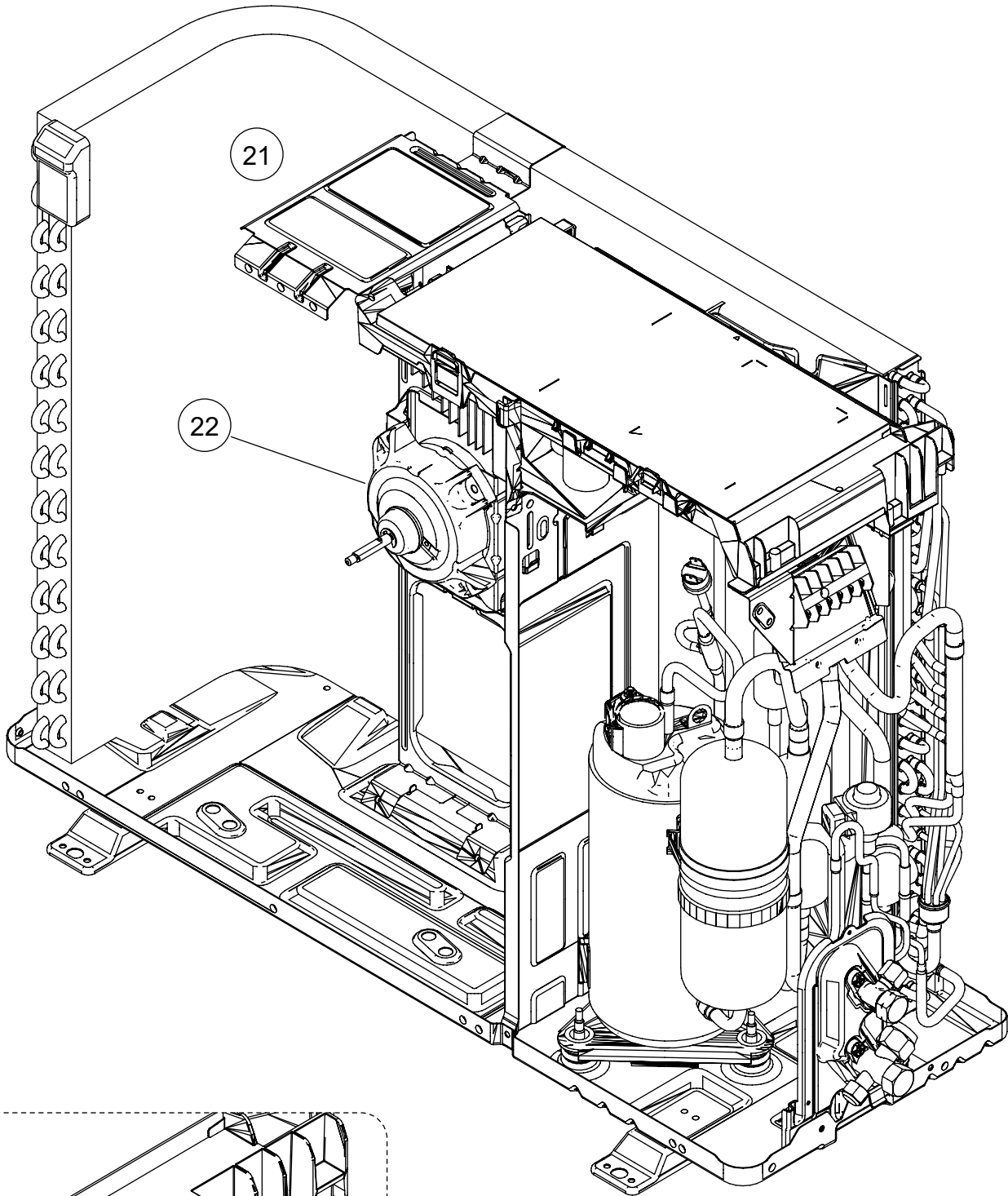
Ref.	Description	Part number
1	Protective net assy	9322811028
2	Outdoor thermistor	9900565060
3	Drain pipe	9322144003

OUTDOOR UNIT
AOYG22KBTB



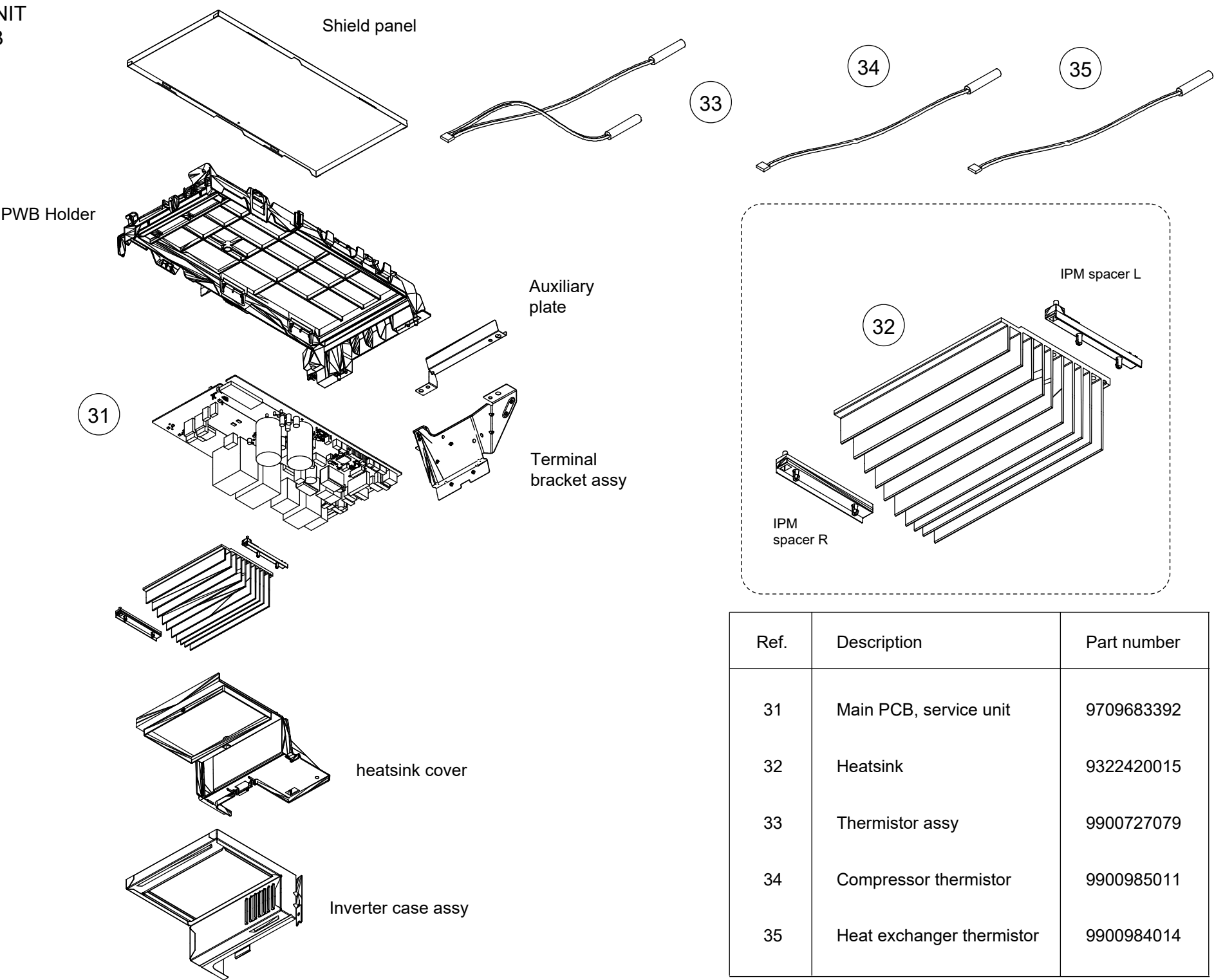
Ref.	Description	Part number
11	Top panel assy	9322556028
12	Front panel assy	9322555021
13	Blow grille	9322149008
14	Emblem	9319151007
15	Switch cover assy	9322570024
16	Cabinet right assy	9322552099
17	Propeller fan	9322150004

OUTDOOR UNIT
AOYG22KBTB



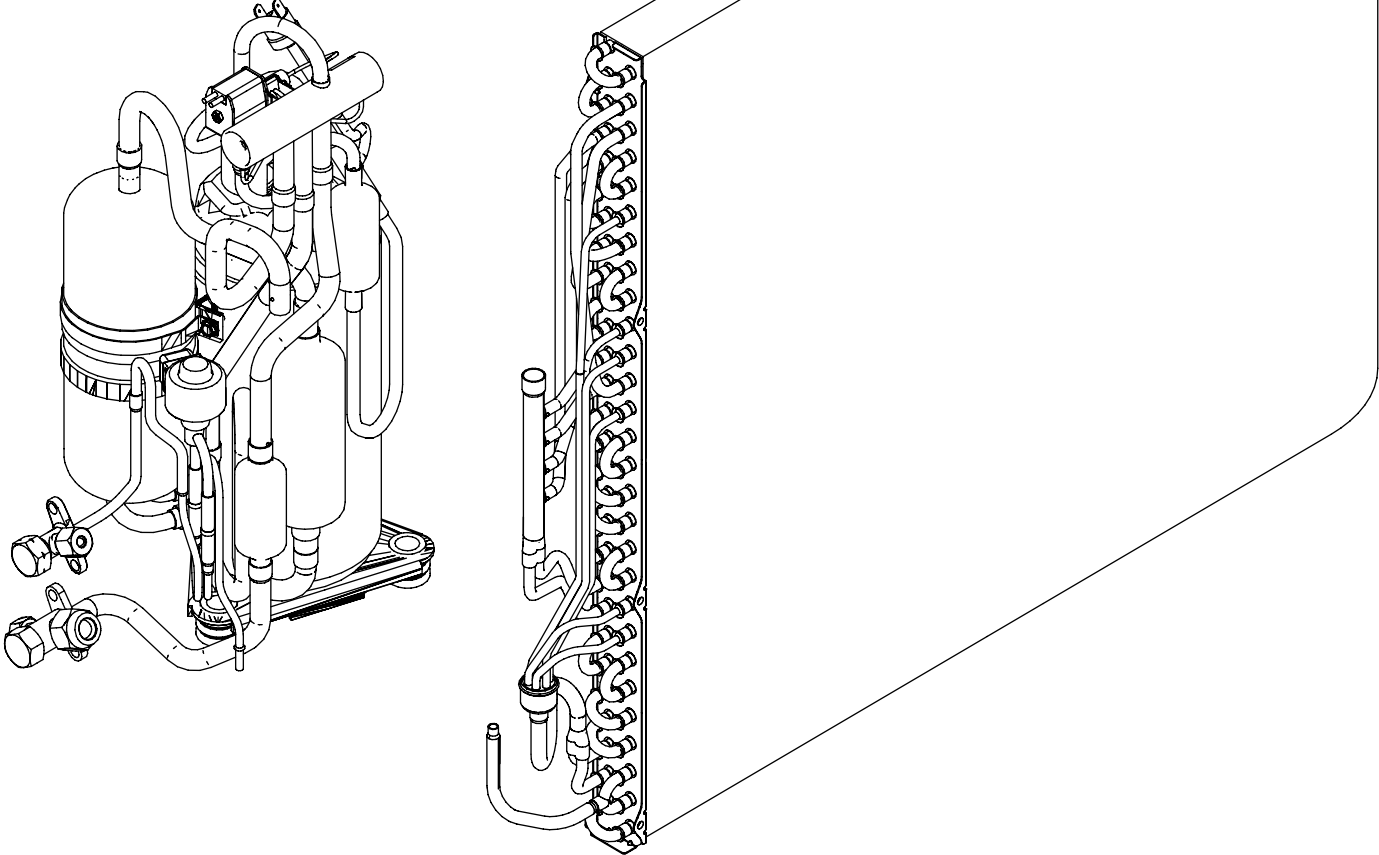
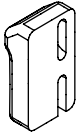
Ref.	Description	Part number
21	Motor bracket assy	9322553027
22	Brushless motor	9603601003
23	Terminal	9900435028

OUTDOOR UNIT
AOYG22KBTB



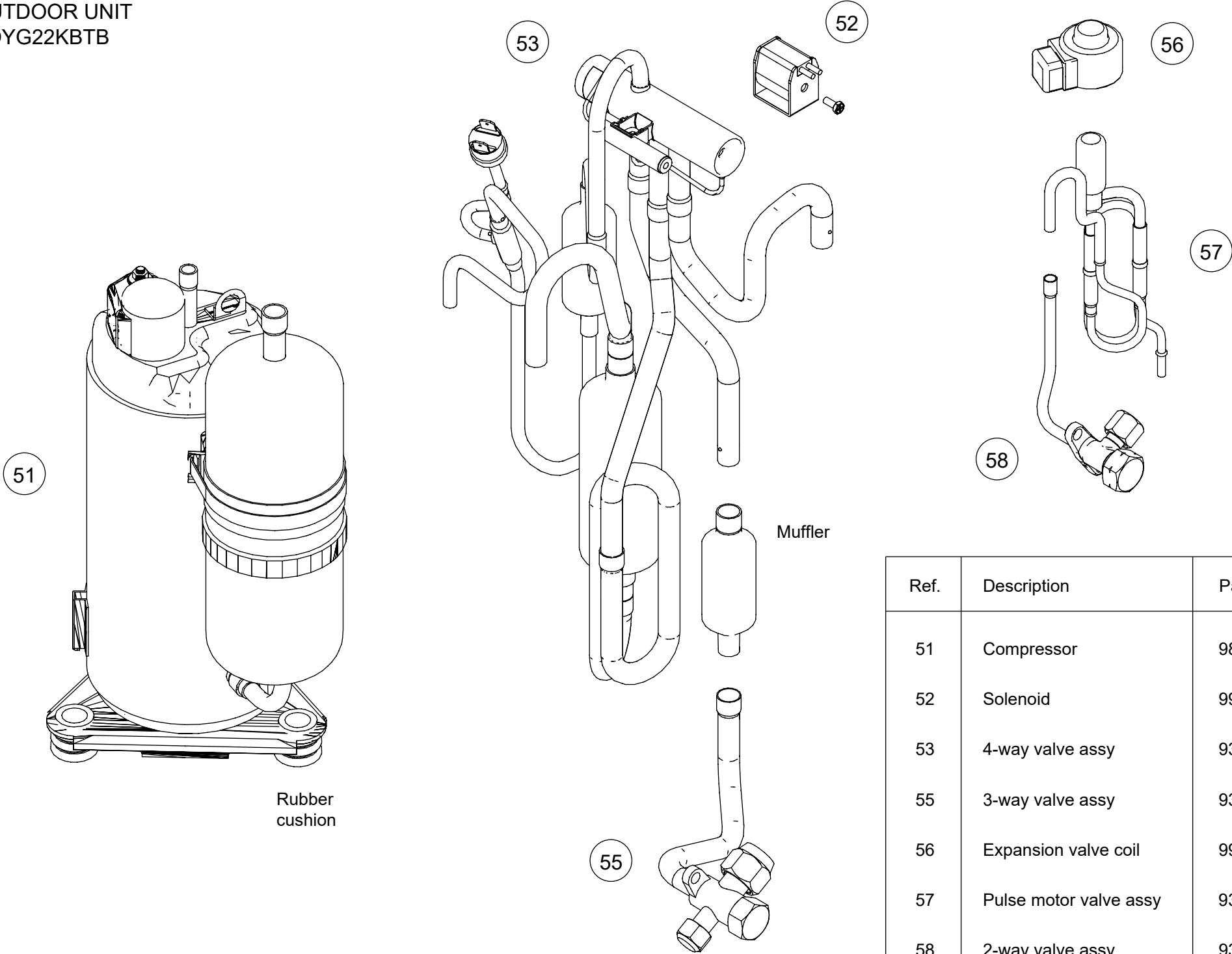
Ref.	Description	Part number
31	Main PCB, service unit	9709683392
32	Heatsink	9322420015
33	Thermistor assy	9900727079
34	Compressor thermistor	9900985011
35	Heat exchanger thermistor	9900984014

Hair pin
cushion



Ref.	Description	Part number
41	Heat exchanger unit (Condenser total assy+ Thermistor holder pipe+ Hair pin cushion)	9323834330
-	S-insulator B	9322503008
-	S-insulator F	9322847003
-	S-insulator H	9322501004
-	S-insulator V	9323045002
-	S-insulator K	9322824004

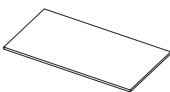
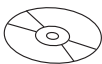
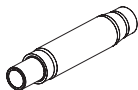
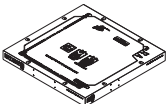
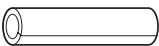
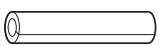
OUTDOOR UNIT
AOYG22KBTB



Ref.	Description	Part number
51	Compressor	9810521002
52	Solenoid	9970195006
53	4-way valve assy	9383129018
55	3-way valve assy	9387831016
56	Expansion valve coil	9970173028
57	Pulse motor valve assy	9322463029
58	2-way valve assy	9322474001

Accessories

Models: AUXG18KRLB and AUXG22KRLB

Part name	Exterior	Q'ty	Part name	Exterior	Q'ty
Operating manual		1	Insulation		1
Operating manual (CD-ROM)		1	Drain hose		1
Installation manual		1	Hose band		1
Template (Carton top)		1	Drain hose heat insulation		1
Washer		8	Cable tie (large)		4
Coupler heat insulation (large)		1	Cable tie (small)		2
Coupler heat insulation (small)		1			

Models: AOYG18KBTB and AOYG22KBTB

Part name	Exterior	Q'ty	Part name	Exterior	Q'ty
Installation manual		1	Drain pipe		1

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